Plasma Display Panel – 42 SD

Type D6

Service Center repair guide
English, German, French, Italian, Spanish, Danish, Nederlands

This Service Center repair guide must be returned with the defective parts/back-up suitcase !

BANG & OLUFSEN

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There is no Brief operation guide in this Service Center repair guide. Instead an english version of the user guide is enclosed the back-up suitcase.

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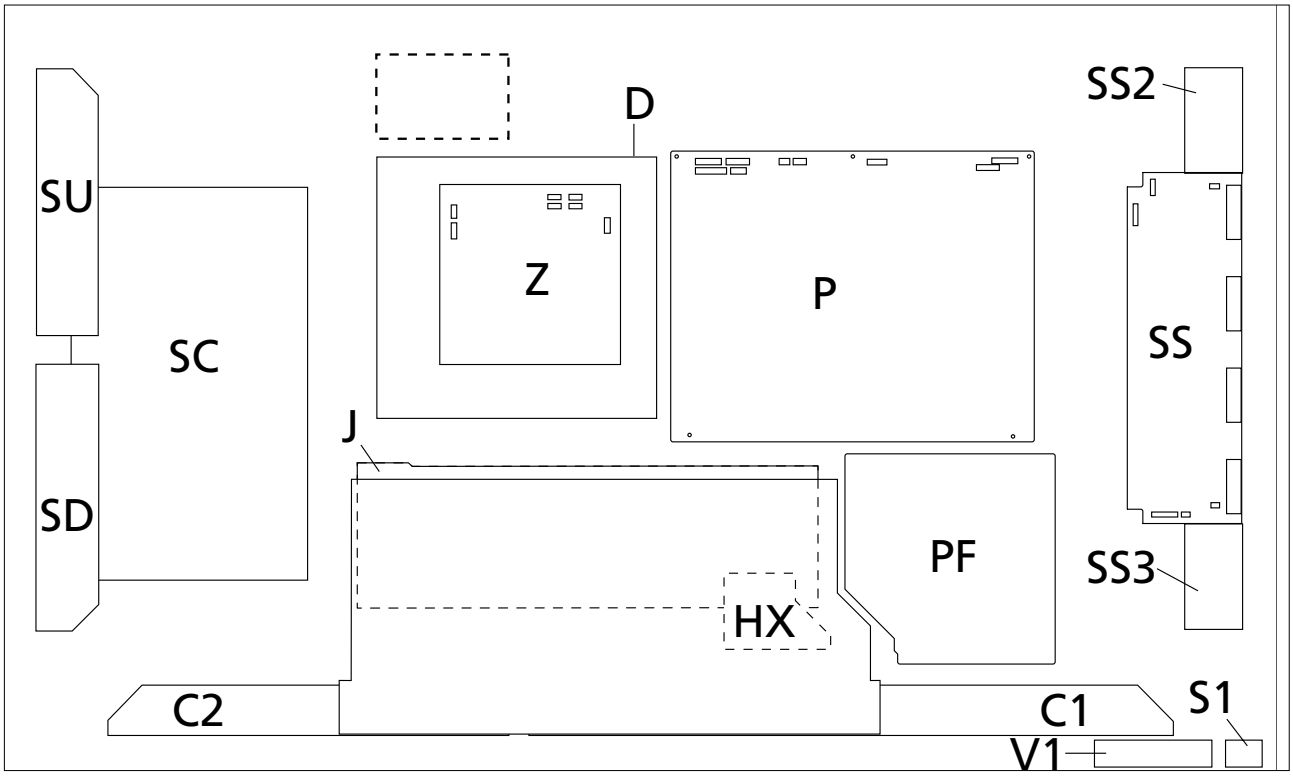
Survey of modules, Plasma Display Panel (PDP)



C1	Data drive (Lower Right)
C2	Data drive (Lower Left)
D	Digital Signal Processor
HX	PC Type Input Terminal
J	Slot Interface & SYNC processor
P	Power Supply
PF	Line filter
S1	Power switch
SC	Scan out
SD	Scan connection (Lower)
SS	Sustain out
SS2	Sustain connection (Upper)
SS3	Sustain connection (Lower)
SU	Scan connection (Upper)
V1	Front SW & Remote receiver
Z	Audio out

Using the Service Center repair guide (SCRG)

The SCRG is primary dealing with fault located in the Plasma Display Panel.
Faults that occur due to setting, link failure or other faults on external connected equipment, can not be expected to be described.

The Service Center repair guide will explain and guide you through repair of the product.

Symbols and illustrations

A survey of symbols are available.
Symbols are used to guide in following situations:

- User action shown in an illustration
- Reference to an illustration

The symbol ➢ is used to refer to a specific illustration.
See ➢2, refers to illustration 2.

Illustrations are placed in the guide so that you can read an instruction and look at the illustrations at the same time.

Survey of symbols

Make a shortcircuit between the marked points, usually for discharging e.g. a picture tube

Push with finger, in arrow direction

Disconnect internal plug
Connect internal plug

Disconnect mains plug
Connect mains plug

Disconnect aeriel or other external plug
Connect aeriel or other external plug

Loosen/remove or fasten/install screw

Dashed arrow. Push/pull e.g. PCB, chassis etc. in arrow's direction

Filled arrow. Refer to the description for more information.

How to service

Servicing

The PDP may only be serviced by qualified technical personal.

If it is not possible to determine the location of the fault or replacing spare part does not clear the fault, please contact your national Service Center for technical support.

Handling

The PDP must always be placed vertical to avoid damaging it self.
There is a major risk on damaging the PDP if it is placed in a horizontal position.
Whenever possible place the PDP in the servicestand.

Clean the product

Never use alcohol or other solvents to clean any part of the product!

Use white gloves to avoid smudging the contrast screen.

Wipe dust off the surfaces using a dry, soft cloth or a micro fibre cloth. Remove grease stains or persistent dirt with a soft, lint-free, firmly wrung cloth, dipped in a solution of water containing only a few drops of mild detergent, such as washing-up liquid.

To retain the optimum performance of the screen, make sure that no streaks or traces of the cleaning fluid are left on the screen.

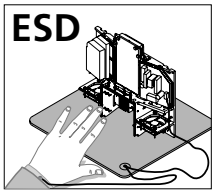
Burn-in

Burn-in on the PDP might occur when displaying a non-moving picture for more than app. 30 minutes.

Warning

Static electricity

Static electricity may damage the product.



Static-protective field service kit.
A static-protective field service kit must always be used when the product is disassembled or modules are being handled.
Follow the instructions in the guide and use the ESD-mat for both old and new modules.

Please note:
When mains voltage on the television is required, remove the connection between the PDP and the ESD-mat.

The chassis or modules must always be connected to the static-protective field service kit or placed in an ESD-proof bag.

Symbol of safety components

When replacing components with this symbol, the same type has to be used, also the same values for ohm and watt.
The new component is to be mounted in the same way as the replaced one.

Trouble shooting

Actions before dismantling the PDP

Check the PDP for burn-in and pixel errors!
This check is very important when the PDP must be transported to a workshop.
Refer to PDP pixel test, page 1.9.

Before dismantling the PDP - disconnect the mains supply and wait minimum 1 minute for the electolytic capasitors to discharge.

Connect ESD-mat.

Test and adjustment of module(s)

Preparations before adjustment

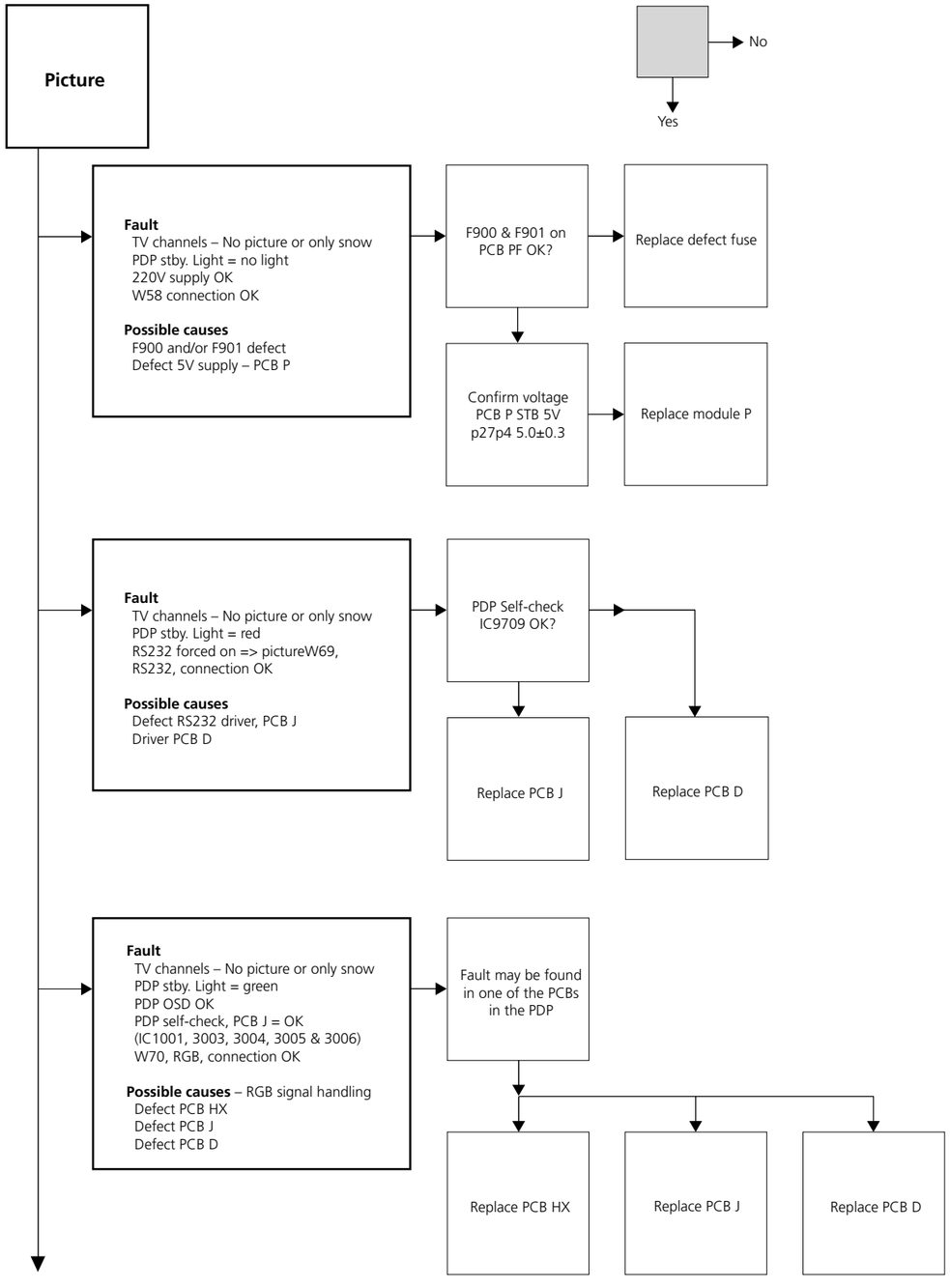
- Do not connect ESD-mat to PDP.

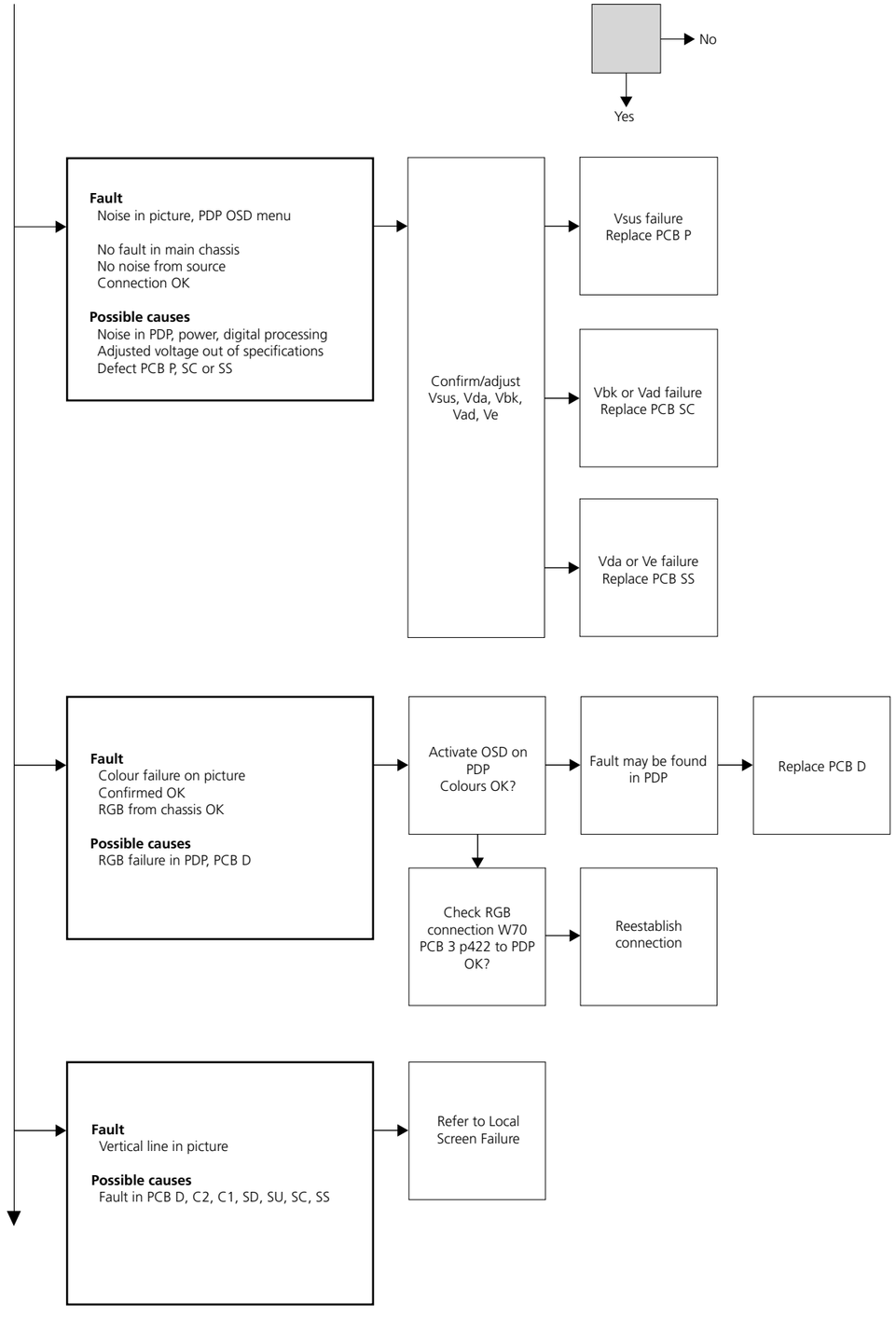
- Set the PDP to receive a picture, eg. generate internal picture. Refer to PDP pixel test, page 1.9.

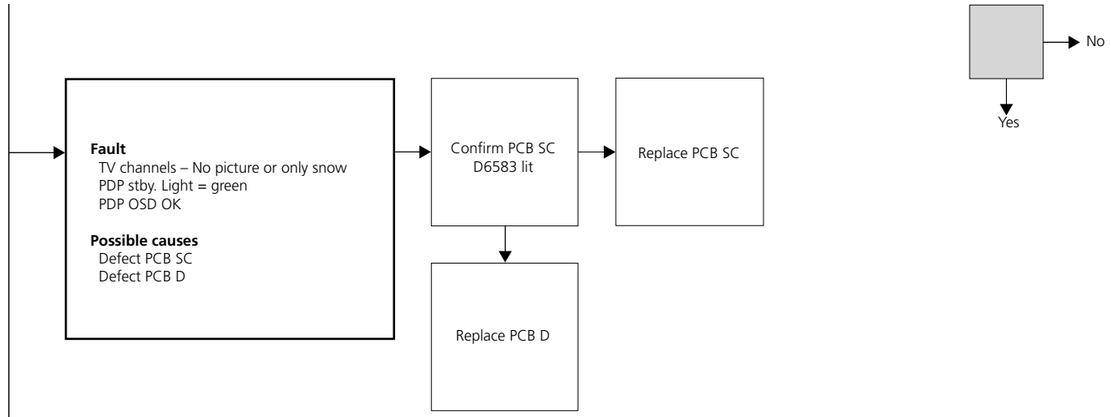
- Checking and adjusting voltage may be performed with a DC-voltmeter (e.g. multi meter).
  Ground is connected to the chassis in the PDP, if nothing else is specified.
  Measuring- and adjustment point please refer to illustrations page 1.7.

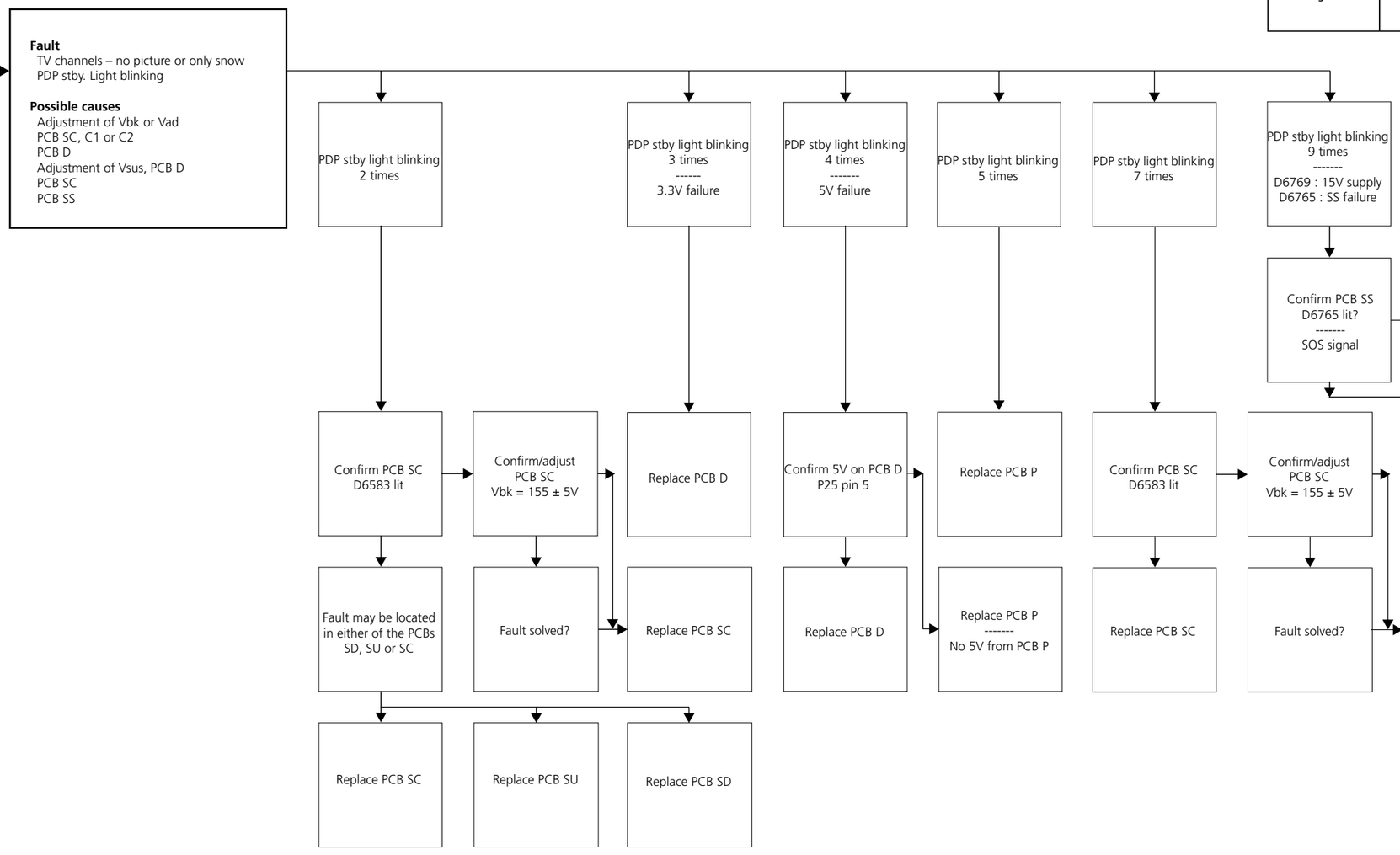
1.5 Fault flow chart, English 1.5

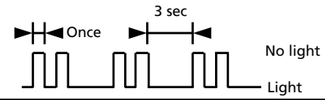
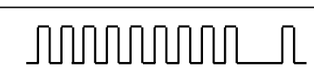
Fault flow chart, PDP


Picture
No
Yes
Fault
TV channels – No picture or only snow
PDP stby. Light = no light
220V supply OK
W58 connection OK
Possible causes
F900 and/or F901 defect
Defect 5V supply – PCB P
F900 & F901 on PCB PF OK?
Replace defect fuse
Confirm voltage PCB P STB 5V p27p4 5.0±0.3
Replace module P
Fault
TV channels – No picture or only snow
PDP stby. Light = red
RS232 forced on => pictureW69,
RS232, connection OK
Possible causes
Defect RS232 driver, PCB J
Driver PCB D
PDP Self-check IC9709 OK?
Replace PCB J
Replace PCB D
Fault
TV channels – No picture or only snow
PDP stby. Light = green
PDP OSD OK
PDP self-check, PCB J = OK
(IC1001, 3003, 3004, 3005 & 3006)
W70, RGB, connection OK
Possible causes – RGB signal handling
Defect PCB HX
Defect PCB J
Defect PCB D
Fault may be found in one of the PCBs in the PDP
Replace PCB HX
Replace PCB J
Replace PCB D

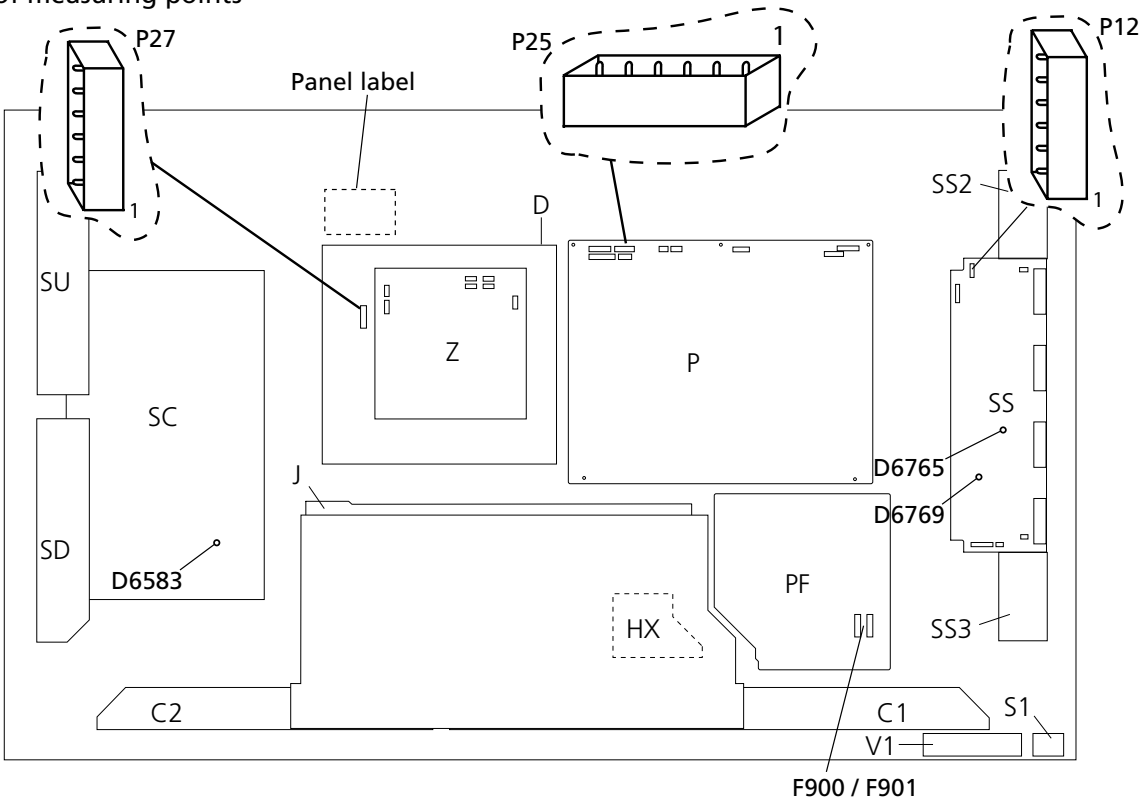

No
Yes
Fault
Noise in picture, PDP OSD menu
No fault in main chassis
No noise from source
Connection OK
Possible causes
Noise in PDP, power, digital processing
Adjusted voltage out of specifications
Defect PCB P, SC or SS
Confirm/adjust Vsus, Vda, Vbk, Vad, Ve
Vsus failure Replace PCB P
Vbk or Vad failure Replace PCB SC
Vda or Ve failure Replace PCB SS
Fault
Colour failure on picture
Confirmed OK
RGB from chassis OK
Possible causes
RGB failure in PDP, PCB D
Activate OSD on PDP Colours OK?
Fault may be found in PDP
Replace PCB D
Check RGB connection W70 PCB 3 p422 to PDP OK?
Reestablish connection
Fault
Vertical line in picture
Possible causes
Fault in PCB D, C2, C1, SD, SU, SC, SS
Refer to Local Screen Failure

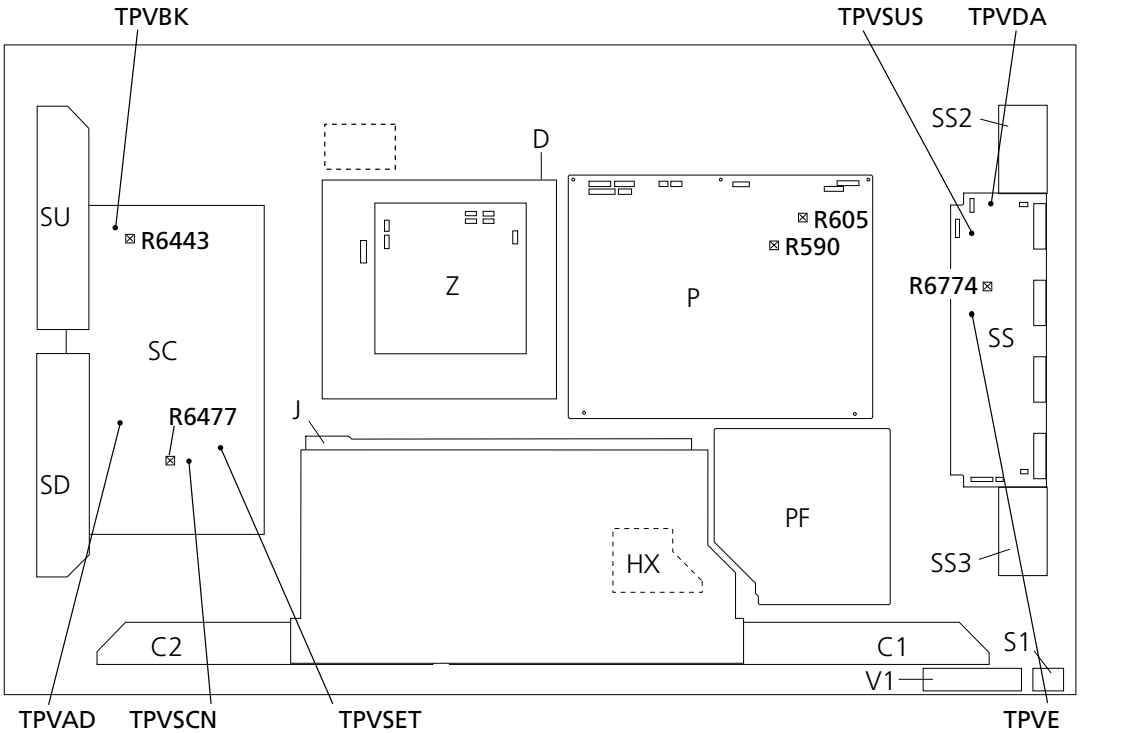



Fault
TV channels – no picture or only snow
PDP stby. Light blinking
Possible causes
Adjustment of Vbk or Vad
PCB SC, C1 or C2
PCB D
Adjustment of Vsus, PCB D
PCB SC
PCB SS
PDP stby light blinking 2 times
Confirm PCB SC D6583 lit
Confirm/adjust PCB SC Vbk = 155 ± 5V
Fault may be located in either of the PCBs SD, SU or SC
Fault solved?
Replace PCB SC
Replace PCB SU
Replace PCB SD
Replace PCB D
PDP stby light blinking 3 times
3.3V failure
Confirm PCB SC D6583 lit
Confirm/adjust PCB SC Vbk = 155 ± 5V
Replace PCB D
Fault solved?
Replace PCB SC
PDP stby light blinking 4 times
5V failure
Confirm 5V on PCB D P25 pin 5
Replace PCB D
Replace PCB P
No 5V from PCB P
PDP stby light blinking 5 times
Replace PCB P
PDP stby light blinking 7 times
Confirm PCB SC D6583 lit
Replace PCB SC
PDP stby light blinking 9 times
D6769 : 15V supply
D6765 : SS failure
Confirm PCB SS D6765 lit?
SOS signal
Confirm PCB SS D6769 lit?
Lit? 15V supply OK
Confirm +15V at PCB SS P12 pin2
15V supply to PCB SS
Replace PCB P
Replace PCB SS
Confirm/adjust PCB SC Vbk = 155 ± 5V
Fault solved?
Replace PCB SC

Blinking times	Blink timing	Contents & Check point
2		SCAN Driver 1
3		3.3V SOS
4		5V SOS
5		Power SOS
7		SCAN Driver 2
9		SUS Driver

Placement of measuring points





- Use a non conductive tool for adjustment.

Module	Test Point	Value	Tolerance	Adjust at	Remark
P	TPVSUS	Label	± 1V	R605	
P	TPVDA	67 V	± 1V	R590	
SC	TPVBK	155V	± 5V	R6443	
SC	TPVAD	-90V	± 1V	R6477	
SC	TPVSET	218V	± 6V		Check
SC	TPVSCN	TPVAD +118V	± 2V		Check
SS	TPVE	Label	± 1V	R6774	

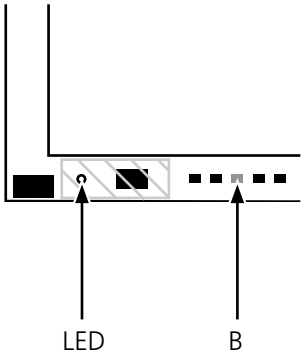
PDP self-check

The self-check checks the status of the circuits connected to the IIC bus

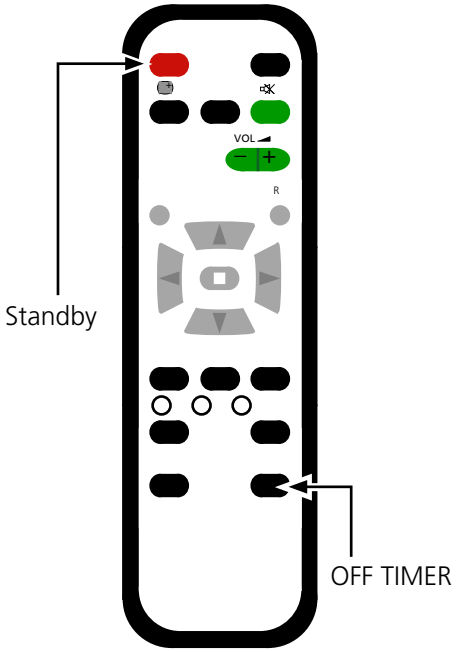
When the PDP is fitted an aluminium front frame, point the NN remote control at the hole in the left-hand front bottom side of the PDP. See ➢6.
By means of a thin tool press in the holes FD the FE and then FF on the NN remote control.
For other operations point the NN remote in the same way.

- Refer to illustrations for:
  - Placement of black self-adhesive tape on the PDP.
  - Placement of buttons on NN remote control.
- Remove the black self-adhesive tape on the PDP. See ➢1.
- Switch on the PDP.
- Enter self-check mode.
  Press button **"B"** on the PDP and at the same time button **OFF TIMER** on the remote control. See ➢1 and ➢2.
  The display will show ":-", while the self-check is performed.
- Result of self-check. See ➢3.
  "OK" No fault
  "- -" Fault in or missing circuit
- Exit self-check mode.
  Press **"Standby"** on NN remote control and thereafter press **Standby** on Beo4.
- Mount the black self-adhesive tape on the PDP.

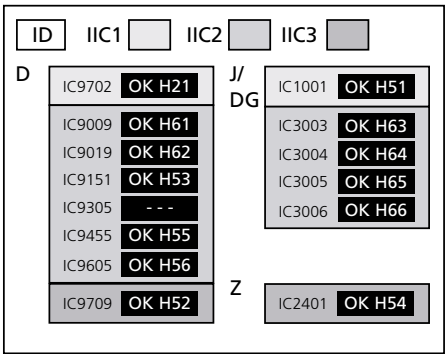
➢1



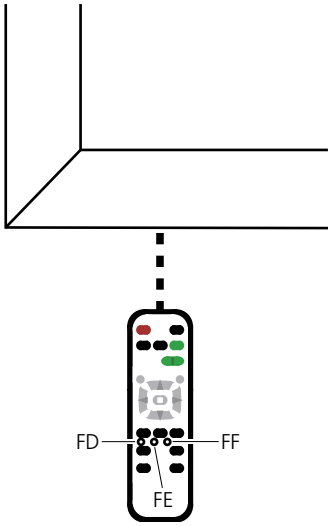
➢2



➢3



➢6



PDP pixel test

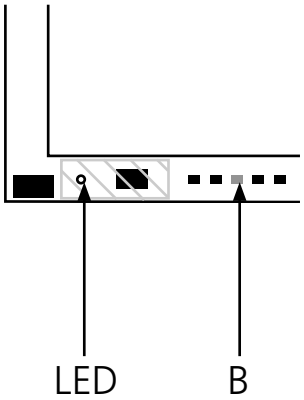
The PDP pixel test checks the status of the PDP, with regard to the number of defective pixels

The test is used:
- before transporting the product or the PDP to a workshop
- before and after service on the PDP

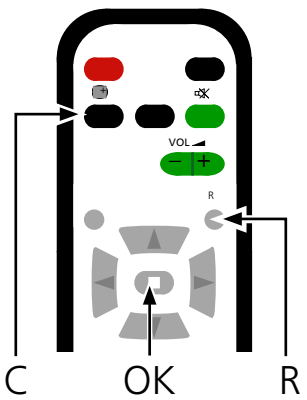
When the PDP is fitted an aluminium front frame, point the NN remote control at the hole in the left-hand front bottom side of the PDP. See ➢6.
By means of a thin tool press in the holes FD the FE and then FF on the NN remote control.
For other operations point the NN remote in the same way.

- Refer to illustrations for:
  - Placement of black self-adhesive tape on the PDP.
  - Placement of buttons on NN remote control.
- Remove the black self-adhesive tape on the PDP. See ➢4.
- Switch on the PDP.
- Enter service mode, CAT Panel menu.
  Press and hold button **"B"** and at the same time press button **"C"** 3 times within 1 second. See ➢4 and ➢5.
- Select Aging.
  Place the cursor on IIC Mode and press **"OK"**.
  Select "Aging", use the up/down arrow buttons to step through the pictures on the on-screen-display.
  Press **"OK"** to activate the internal test pictures.
  Press **"OK"** to switch between the different test pictures.
- PDP pixel test.
  Use the "GREEN", "RED" and "BLUE" test picture for checking the pixels.
- Exit service mode.
  Press **"R"** twice to return to CAT Panel menu.
  Press **"C"** to exit the service mode.

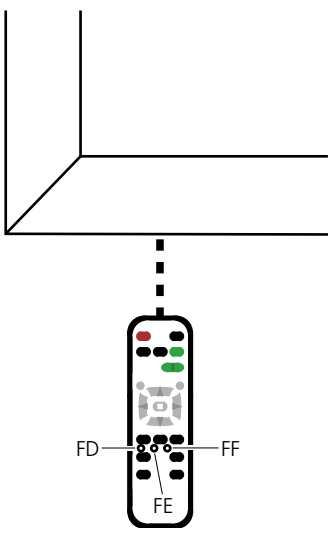
➢4



➢5

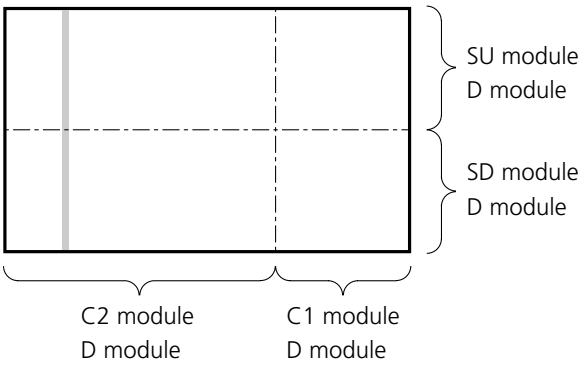


➢6



Local Screen Failure

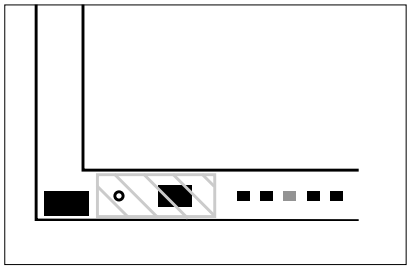
The PDP may have a local area failure on the screen.
The illustration below shows a possible connection between failure and module.

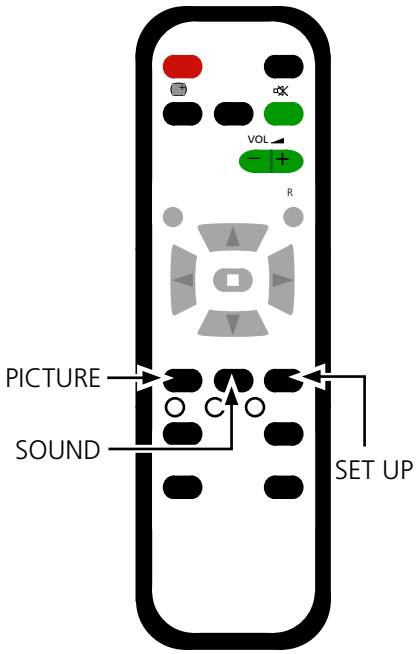


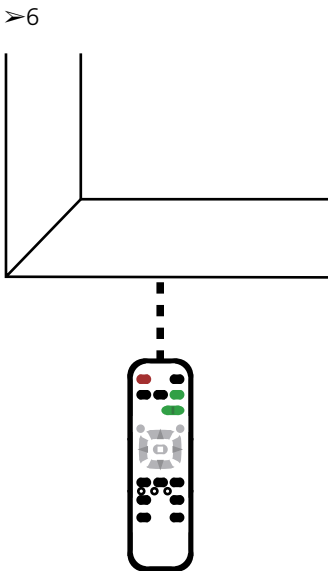
OSD menu on the PDP

When the PDP is fitted an aluminium front frame, point the NN remote control at the hole in the left-hand front bottom side of the PDP. See ➢6.

1. Remove self-adhesive tape
2. Press **PICTURE**, **SOUND** or **SET UP** on NN remote control.







Replacement of modules

Replacement of modules
Replacement of contrast screen

Actions before dismantling the PDP

Before dismantling the PDP - disconnect the mains supply and wait minimum 1 minute for the electolytic capasitors to discharge.

Connect ESD-mat.

After replacing module(s) in the PDP follow the test and adjustment procedure as described in "Test and adjustment after replacement of module(s)" on page 1.14.

NOTE

Internal cables in the PDP.
Please show precaution when disconnecting cables from sockets.

Replacement of modules

Follow the instructions described on page:
8.1 - 8.5 PDP in service position
8.7 - 8.19 for selected PCB

Replacement of contrast screen

Use white gloves to avoid smudging the contrast screen.

Use only the micro fibre cloth, part no. 3375706 to clean the PDP.
Do not use any kind of cleaning detergents on the PDP.

Follow the instructions described on page:
8.1 - 8.5 PDP in service position
8.6 Remove contrast screen and plasma frame

Test, adjustment and configuration after repair

Configure PDP for B&O menu.
Test and adjustment after replacement of module(s).

WARNING

Burn-in on the PDP might occur when displaying a non-moving picture for more than app. 30 minutes.

Test and adjustment

Test and adjustment after replacement of module(s) must be executed after any repair on the PDP.

Configure PDP for B&O menu

The D module must be configured to work with Bang & Olufsen features.

1. Please refer to illustration for:
   - placement of buttons on Plasma panel and NN remote control.
   - CAT Panel menu & CD mode.

2. Remove the black self-adhesive tape.

3. Switch BeoVision 5-42 on.

4. Switch Plasma panel on.
   Press the button marked **"A"**.
   The Plasma led lights green.

5. Enter Service mode.
   Press and hold the button **"B"** and at the same time press button **"C"** 3 times within 1 seconds.

6. Access to CD Mode in the CAT Panel menu.
   Use the arrow buttons to select CD Mode.
   Press the button **"D"** for 5 seconds.

7. CD menu.

8. Check Memory Address and Data in Memory data change.
   Use the arrow buttons to find the required memory address in Memory data change.
   First address code is set using the left/right arrow buttons.
   Second address code is set using the up/down arrow buttons.

9. Check the Address and Data.

Address	00	8A	00	8B	00	8C	00	8F
Data	10	10	01	01	01	01	10	10

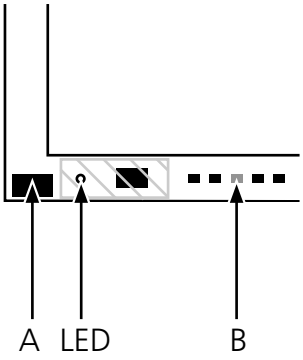
10. Change data in Memory data change.
    Use the volume buttons (+/-) to change the Data value.
    Change the data to the values below.

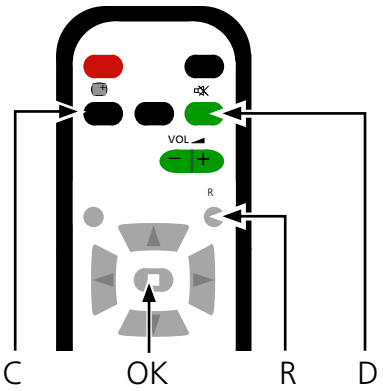
Data for Plasma Panel

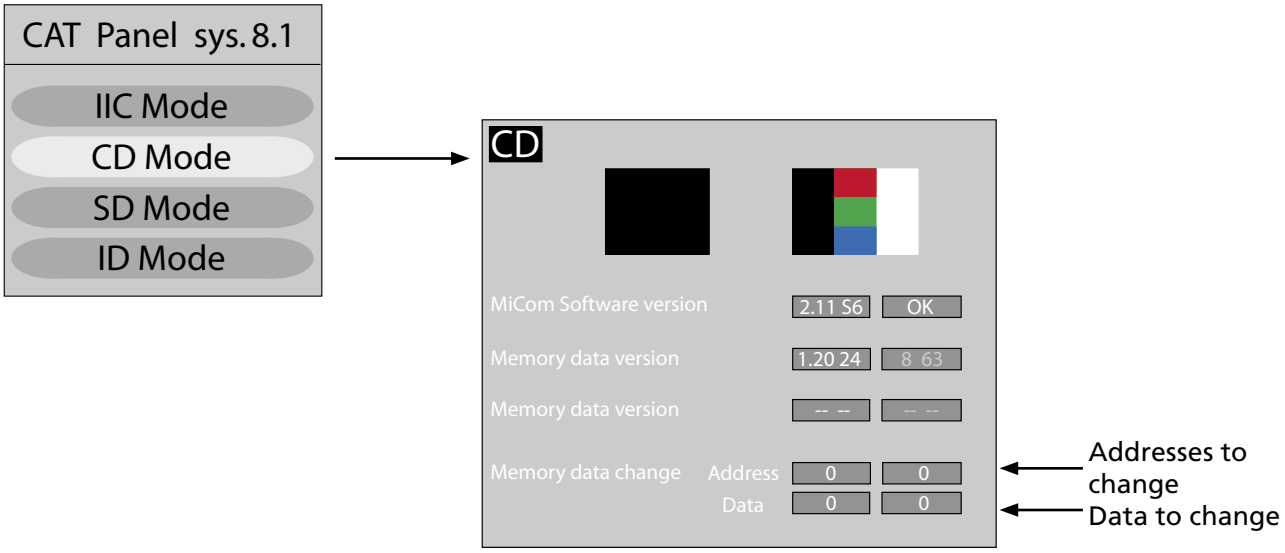
Address	00	8A	00	8B	00	8C	00	8F
Data	10	10	01	01	01	01	10	10

11. Exit Service mode.
    Leave CD mode press the button **"R"** and the CAT Panel menu appears again.
    Leave CAT Panel menu press the button **"C"**.

12. Mount the black self-adhesive tape.







Test and adjustment after replacement of module(s)

Preparations before adjustment

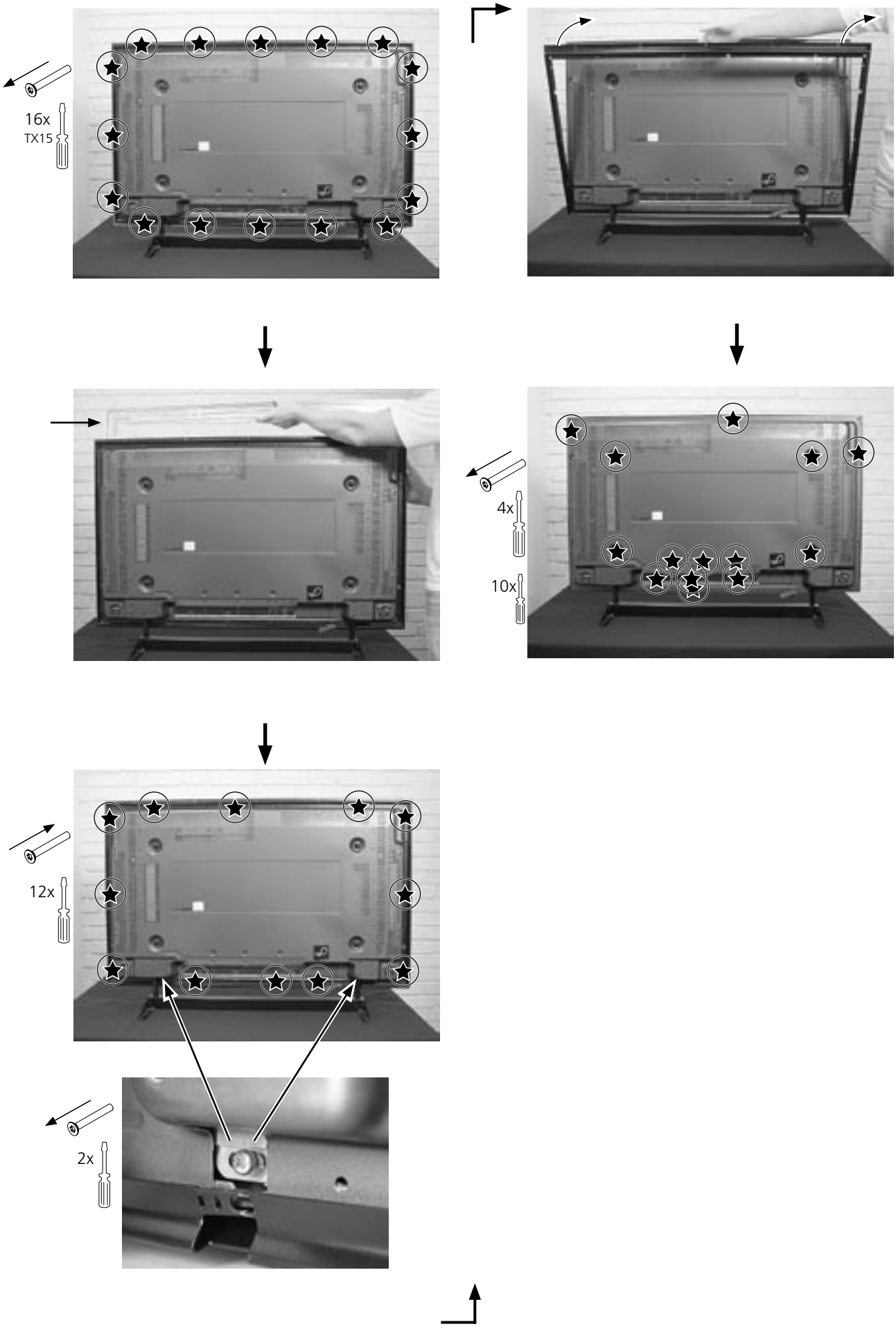
- Do not connect ESD-mat to PDP.

- Set the PDP to receive a picture, eg. generate internal picture. Refer to PDP pixel test, page 1.9.

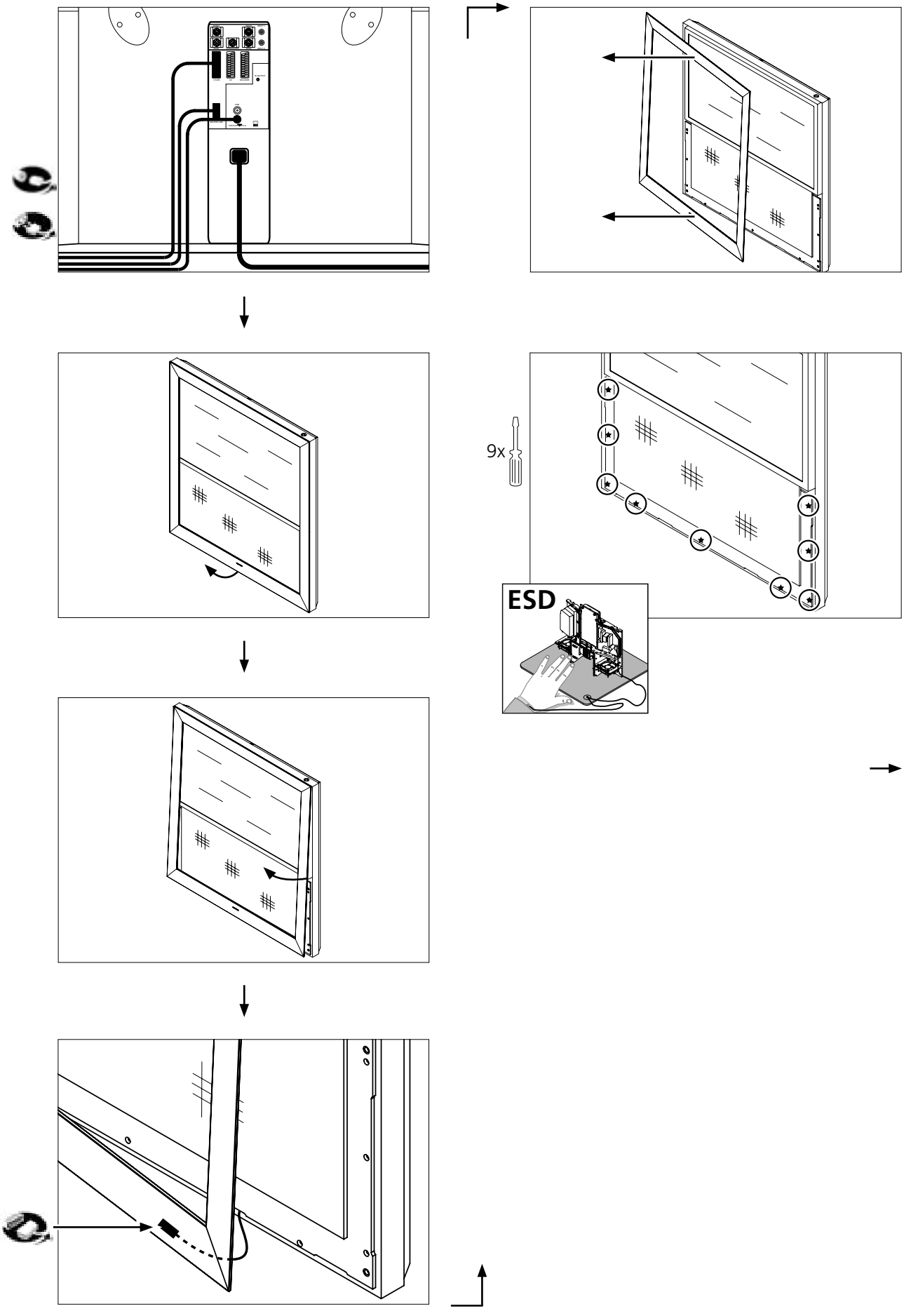
- Checking and adjusting voltage may be performed with a DC-voltmeter (e.g. multi meter).
  Ground is connected to the chassis in the PDP, if nothing else is specified.
  Measuring- and adjustment point please refer to illustrations page 1.7.

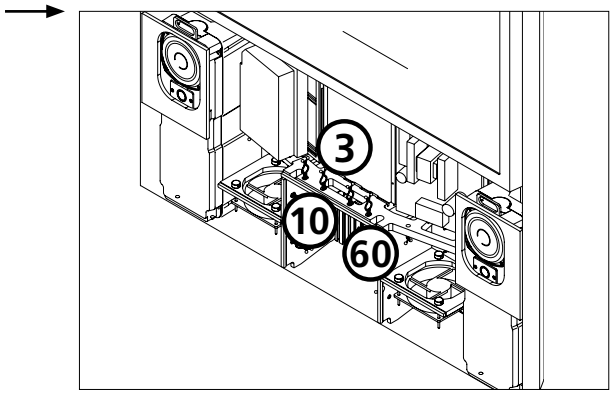
Final check after repair

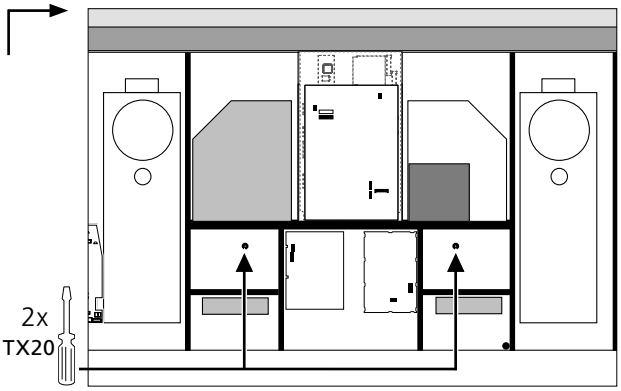
Before reinstalling the PDP in the product run the PDP self-check, page 1.8.

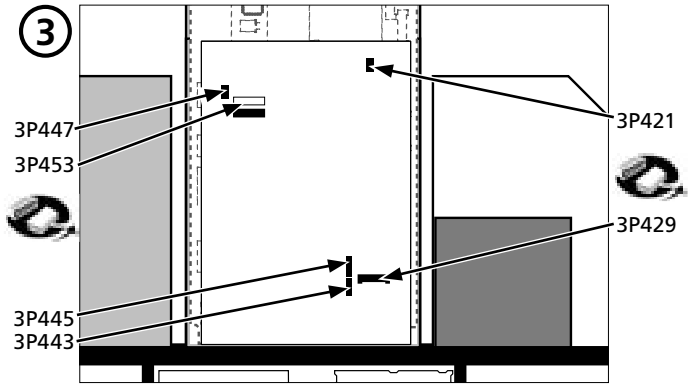

16x
TX15
4x
10x
12x
2x

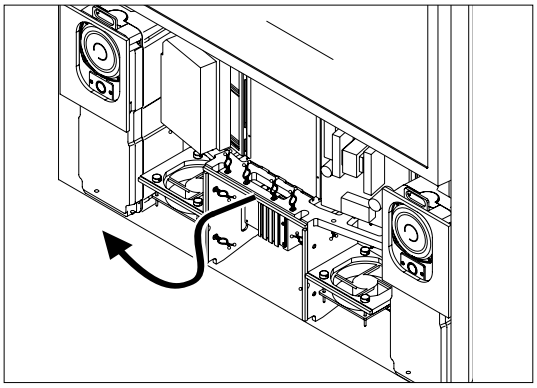
Service position

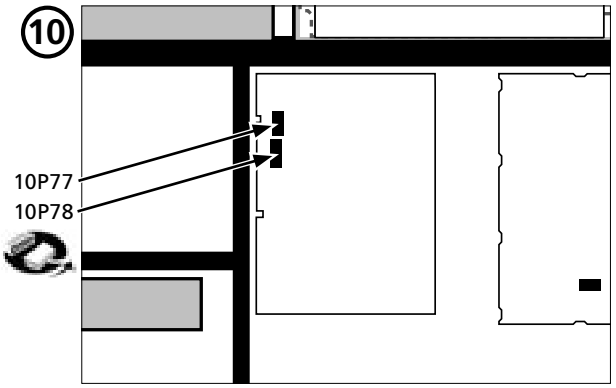


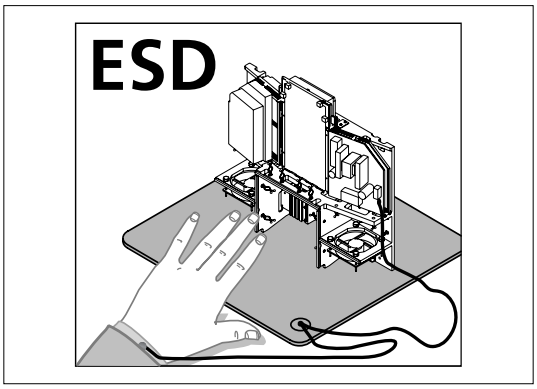

3
10
60

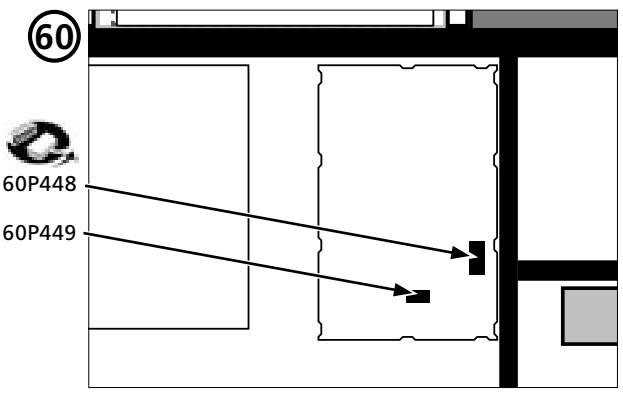

2x
TX20

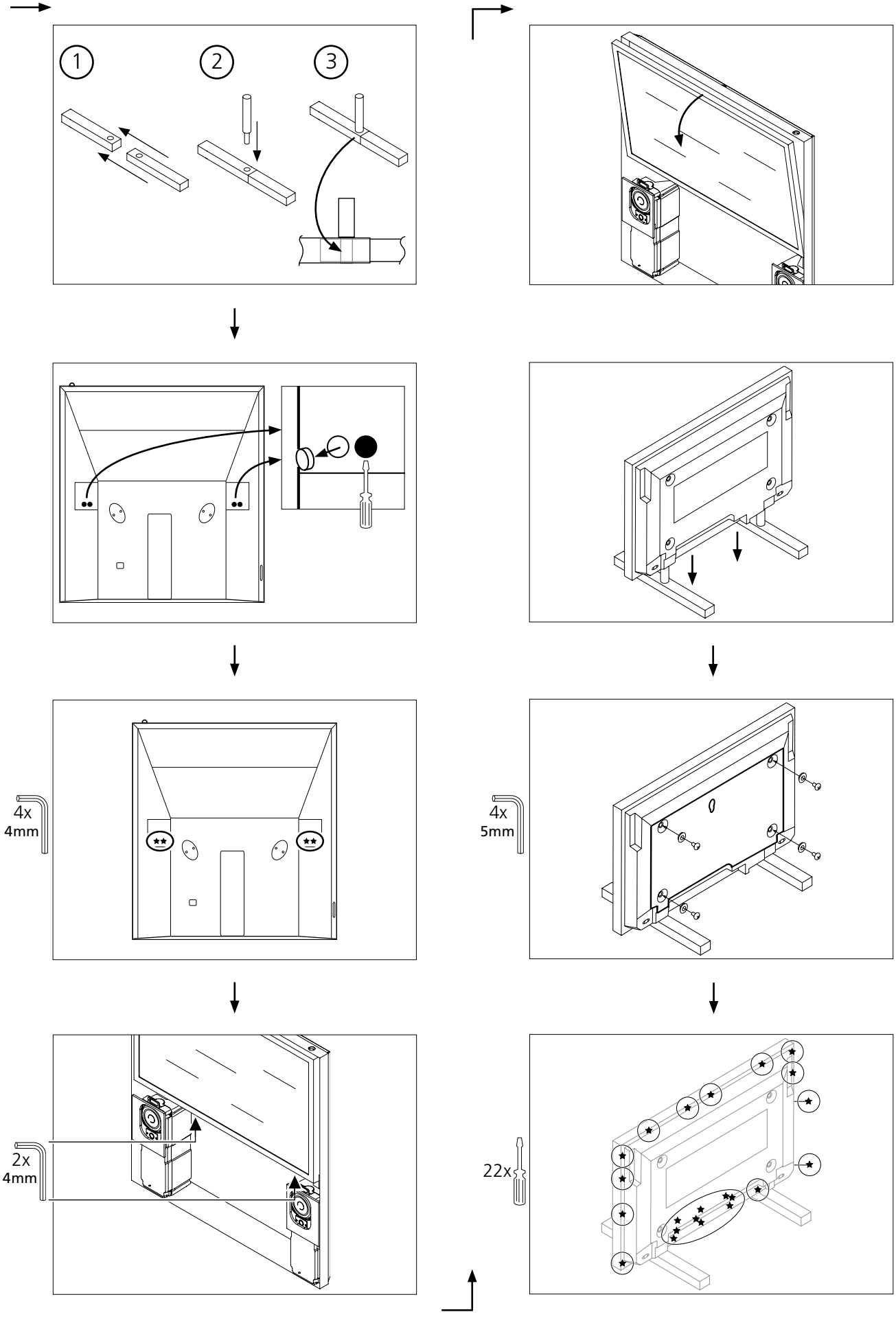

3
3P447
3P453
3P421
3P429
3P445
3P443



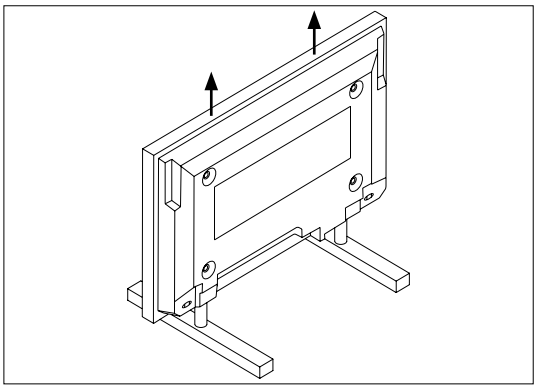

10
10P77
10P78

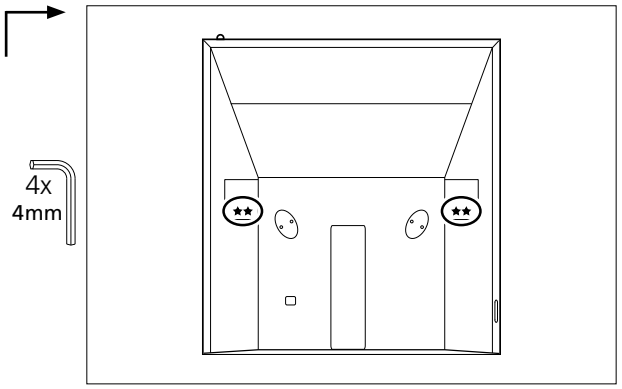

ESD

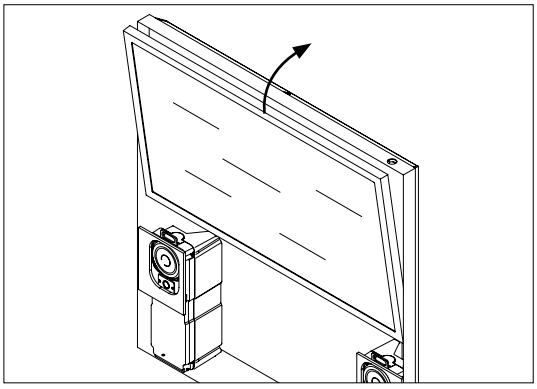

60
60P448
60P449

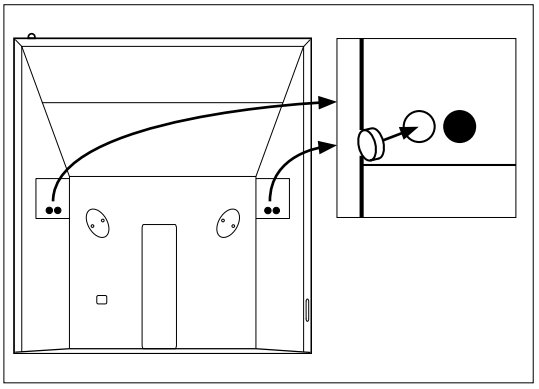

1
2
3
4x
4mm
4x
5mm
2x
4mm
22x

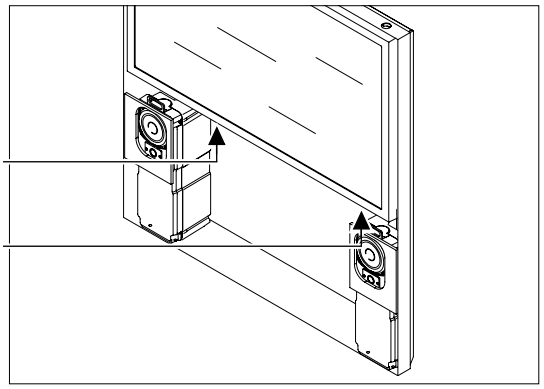
Remounting PDP

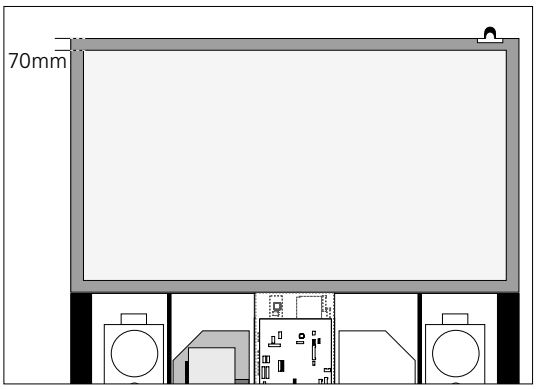










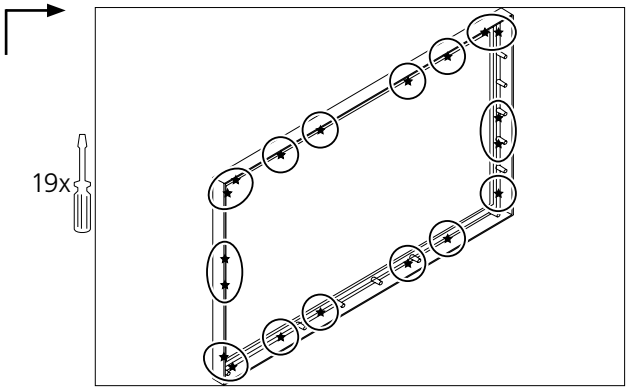


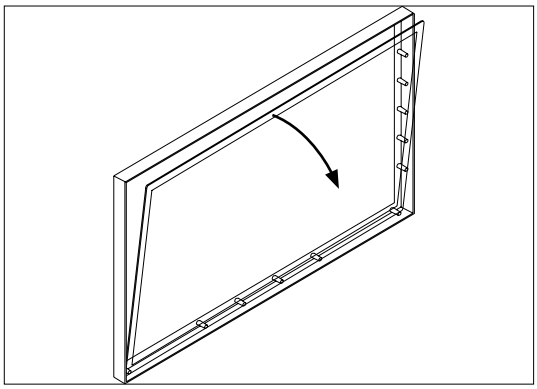
Service position

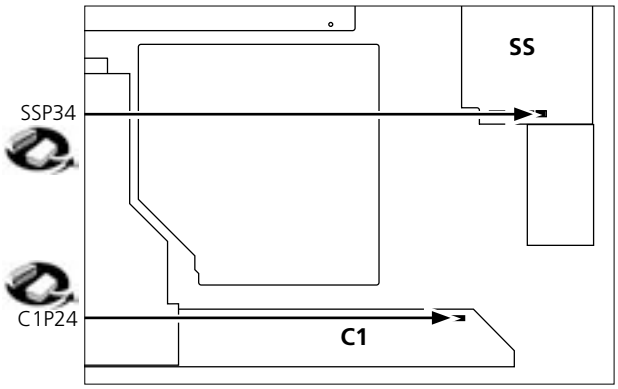
Remove Main chassis

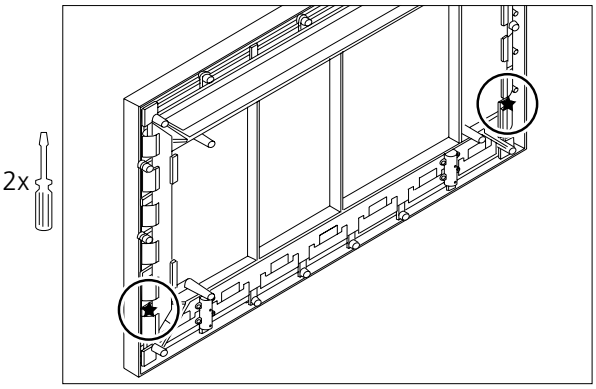
Remove contrast screen and plasma frame

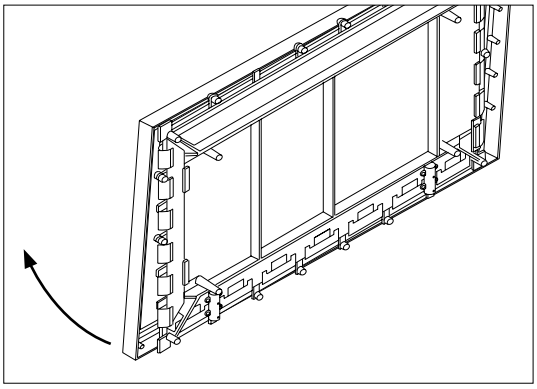
Service position



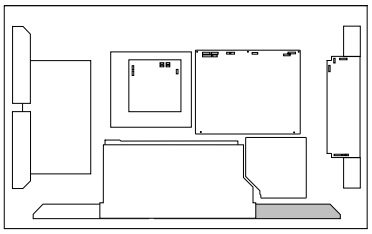


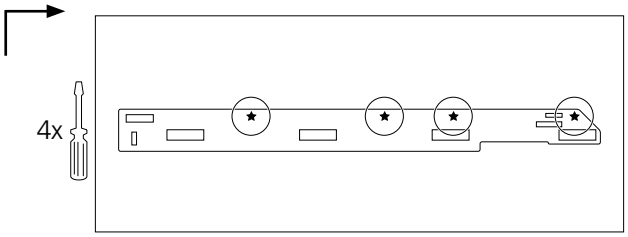






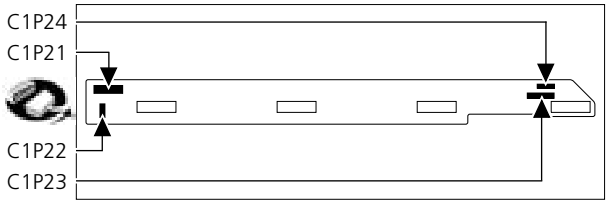
Replacement of PCB C1, Data drive (Lower Right)

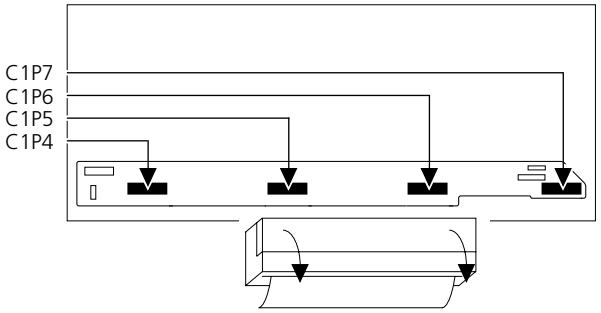


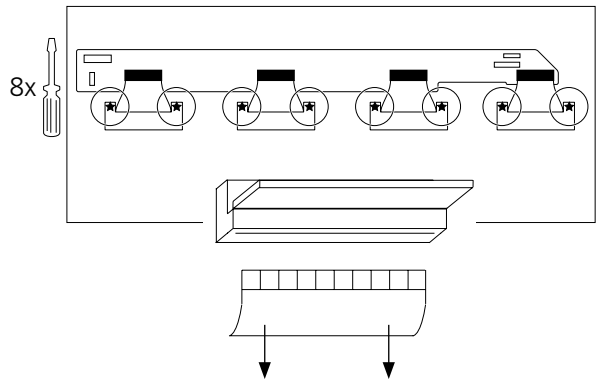


Service position

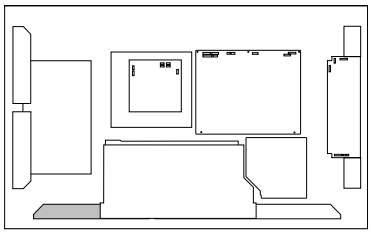
Remove PCB HX





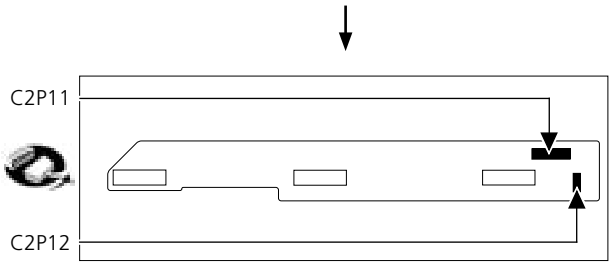


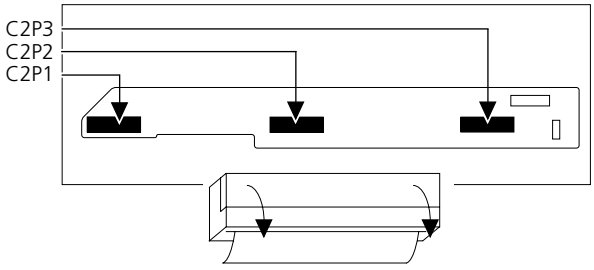
Replacement of PCB C2, Data drive (Lower Left)

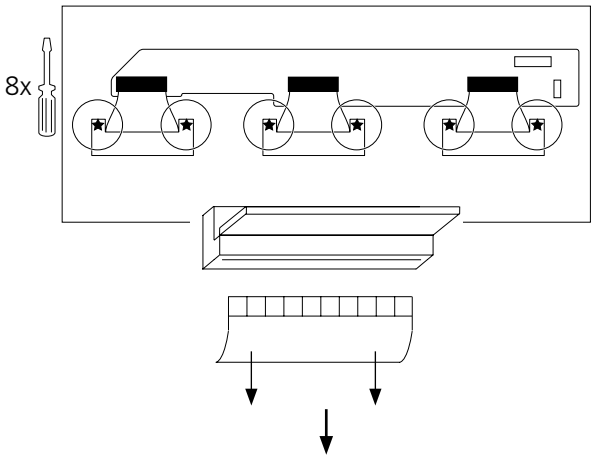


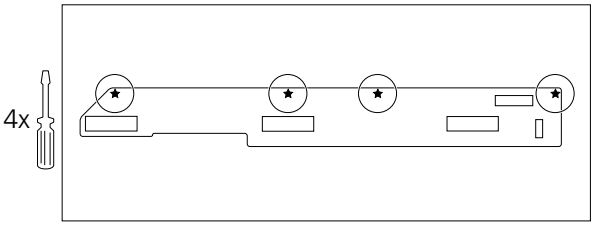
Service position

Remove PCB HX

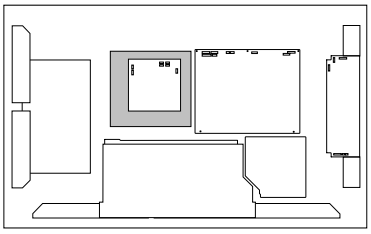




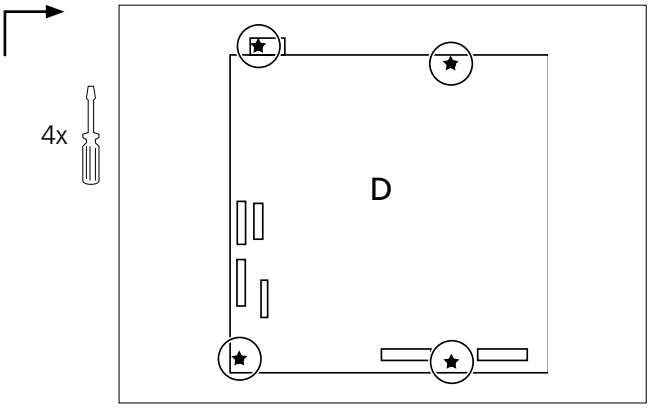


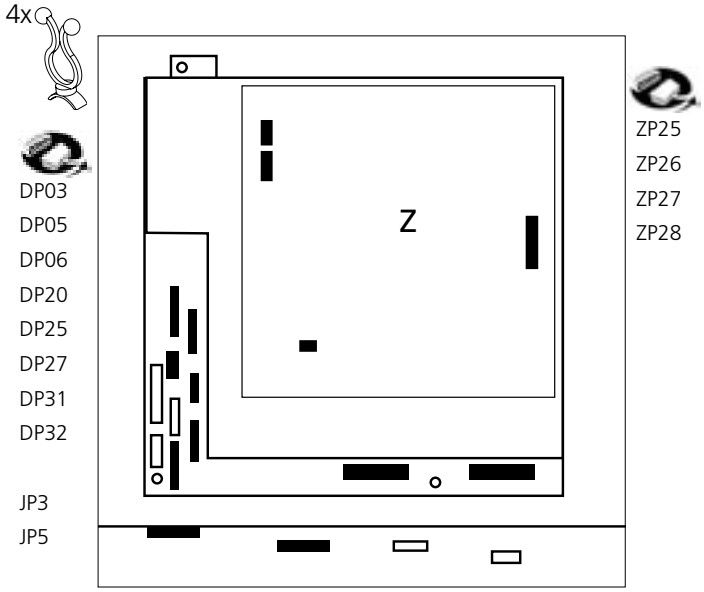


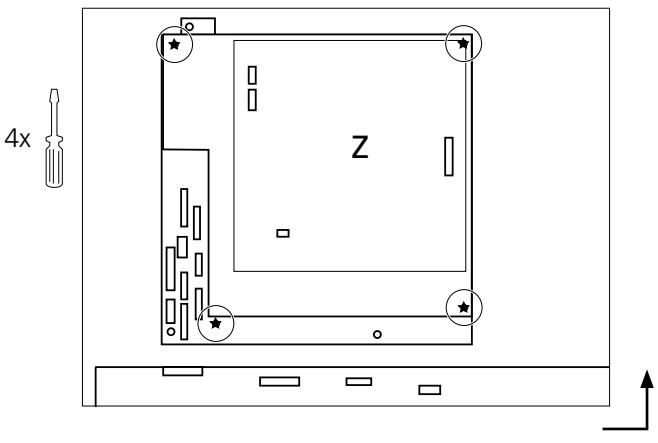
Replacement of PCB D, Digital Signal Processor



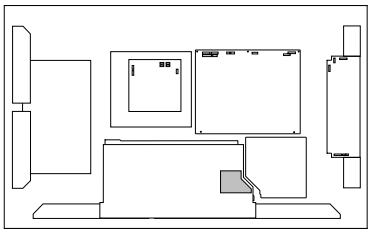
Service position





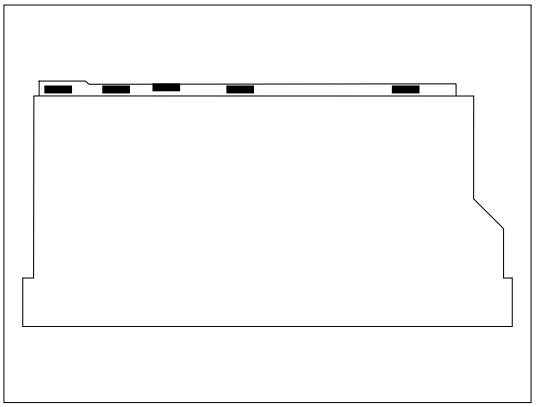


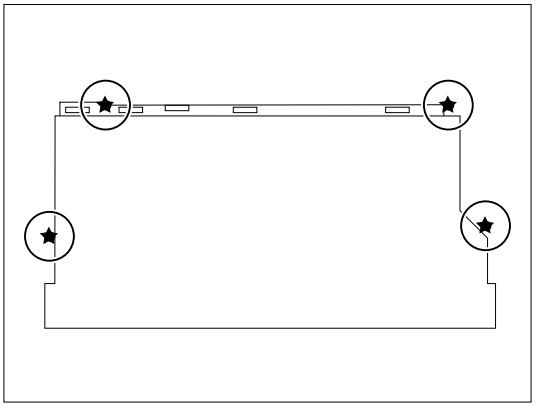
Replacement of PCB HX, PC Type Input Terminal

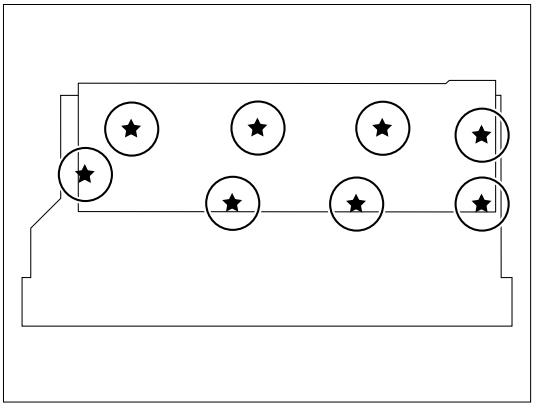


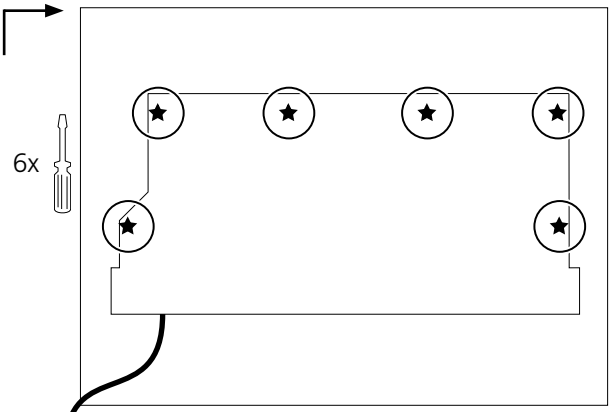
Service position

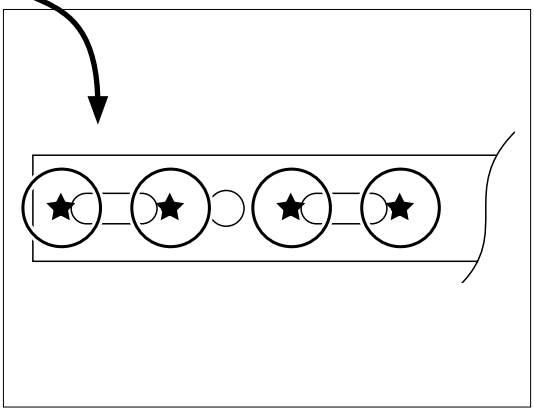
JP3
JP5
JP6
JP8
JP10

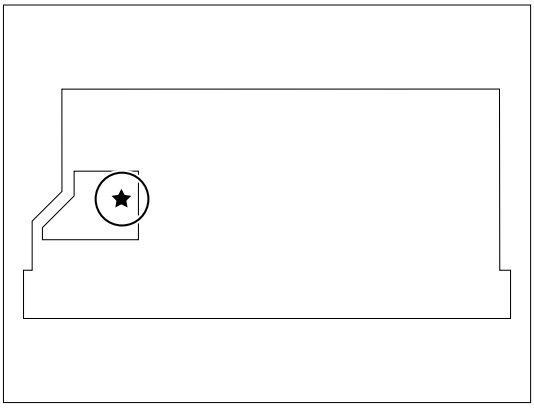




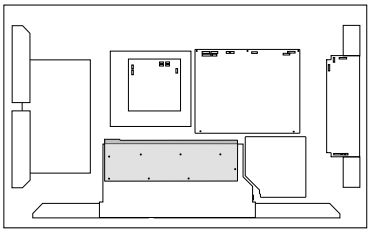






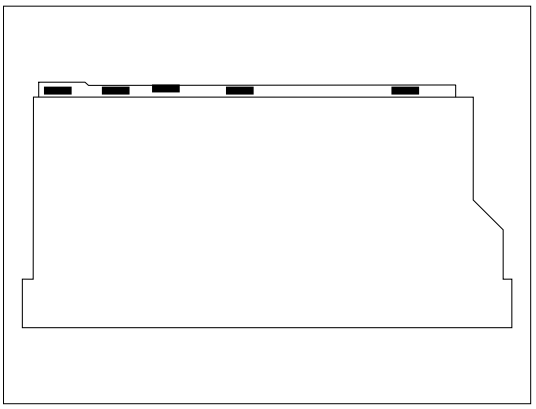


Replacement of PCB J, Slot Interface & SYNC processor

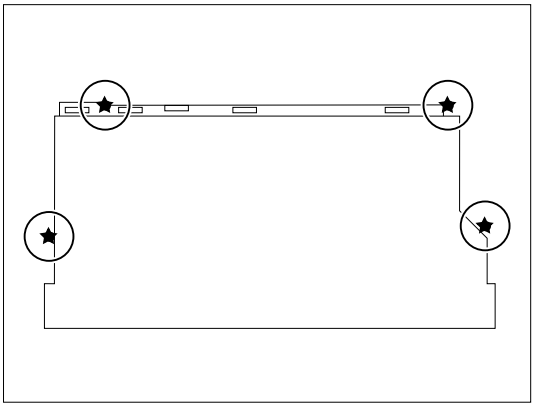


Service position

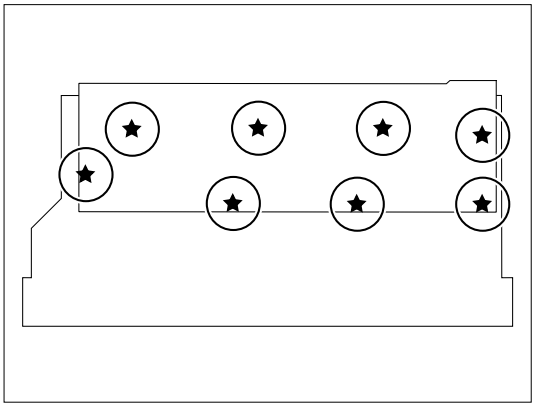
JP3
JP5
JP6
JP8
JP10



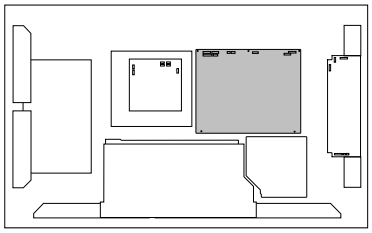
4x

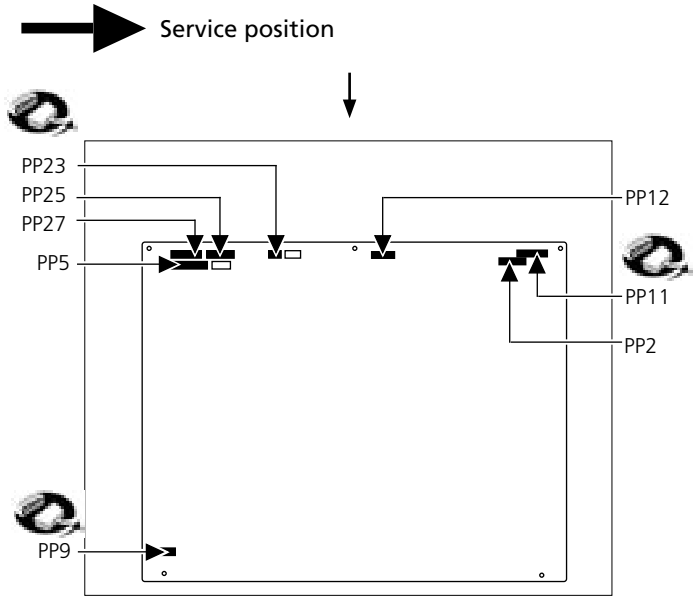


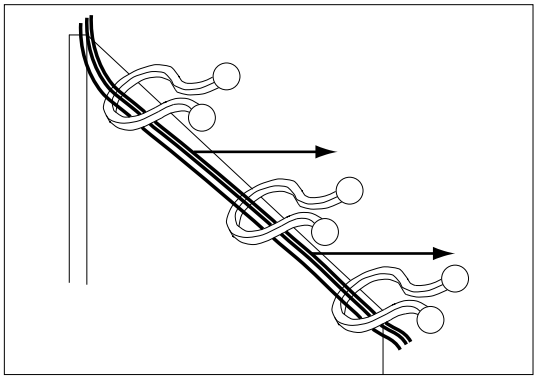
8x

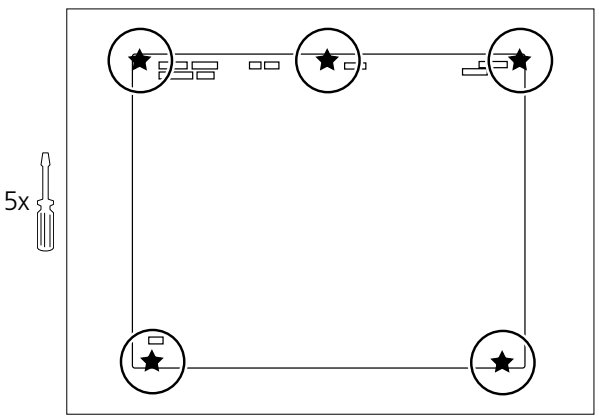


Replacement of PCB P, Power Supply

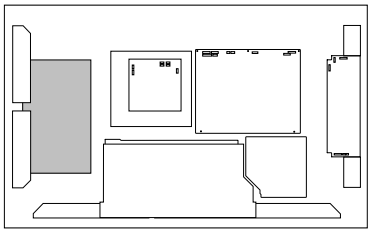




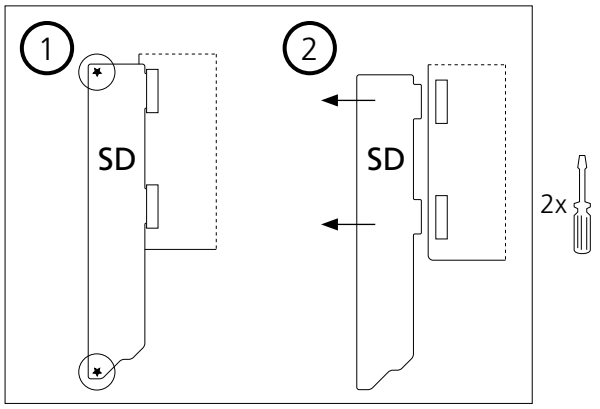


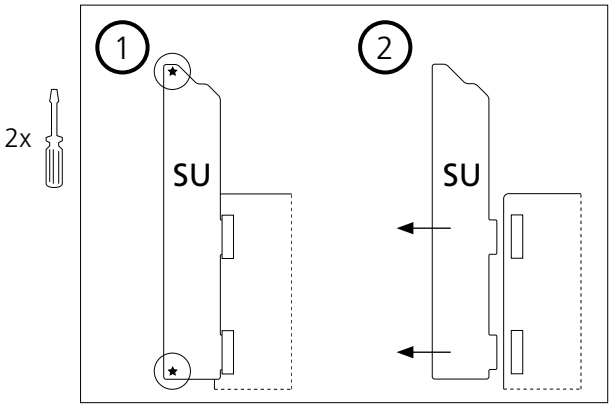


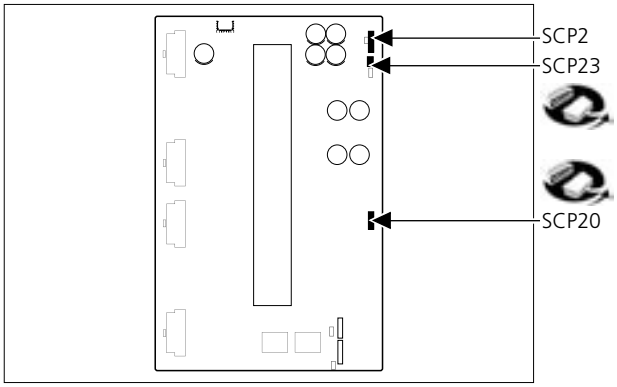
Replacement of PCB SC, Scan out



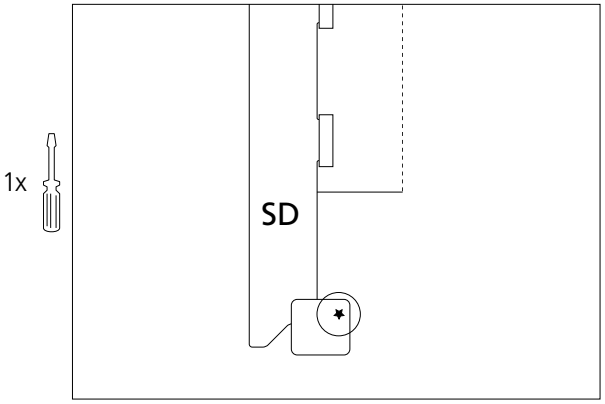
Service position

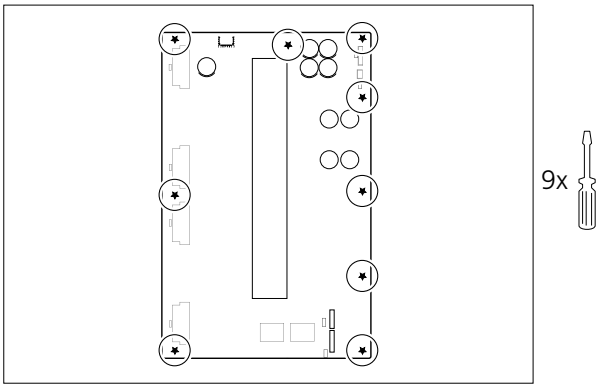




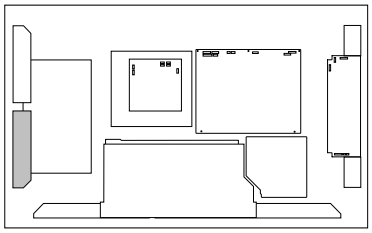


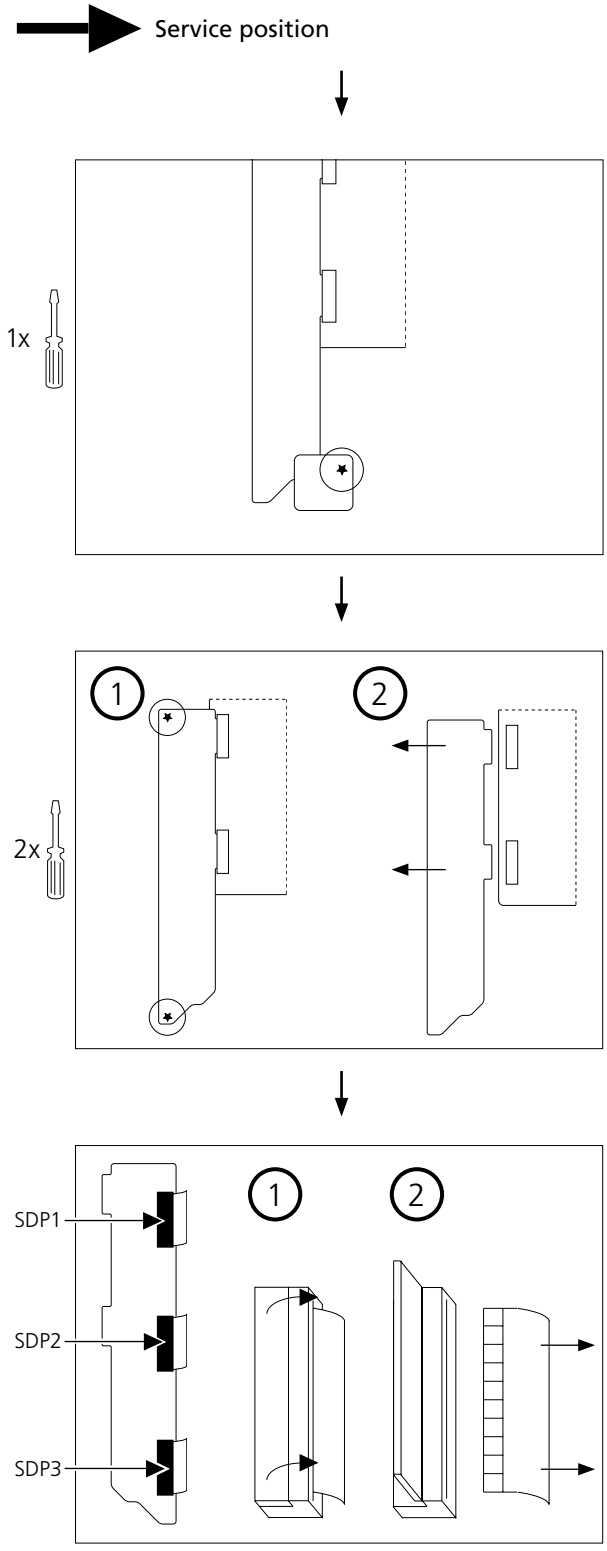
Remove PCB HX



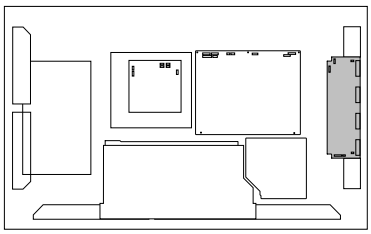


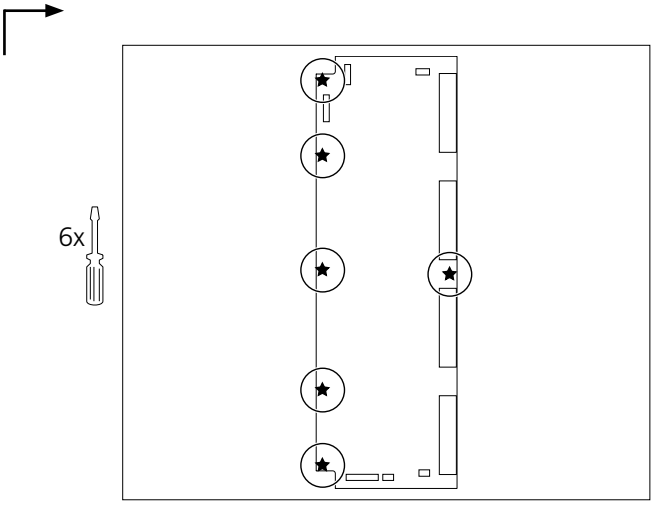
Replacement of PCB SD, Scan connection (Lower)





Replacement of PCB SS, Sustain out

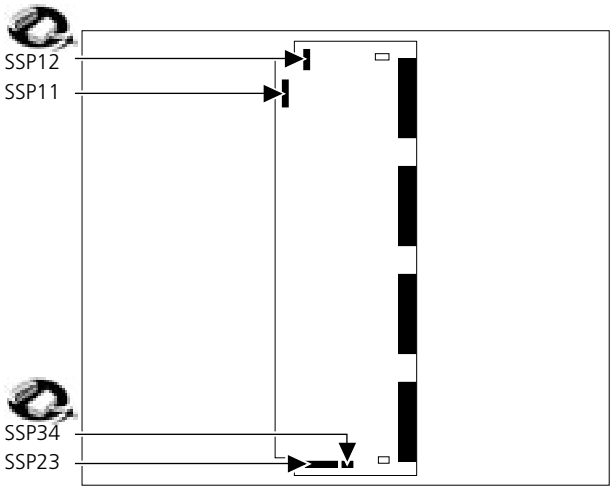


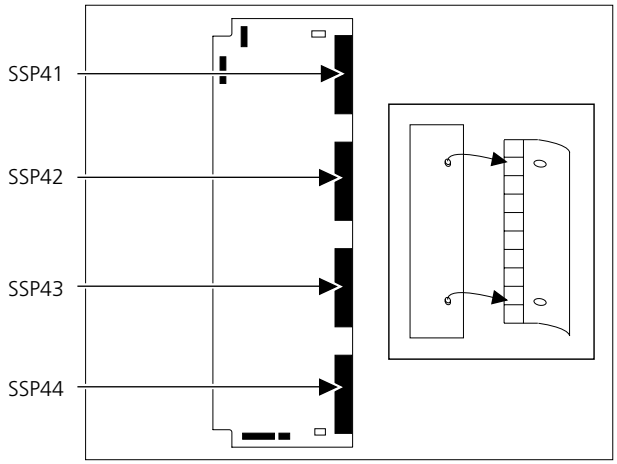


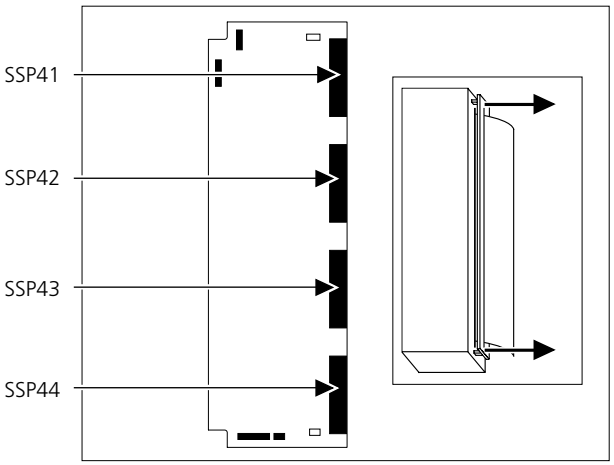
Service position

Remove PCB SS2

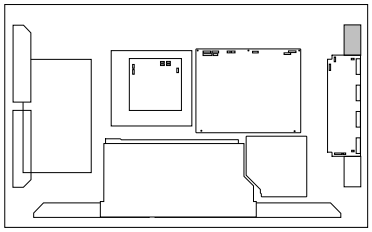
Remove PCB SS3



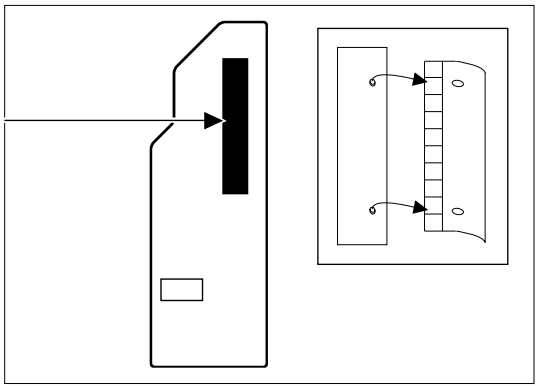


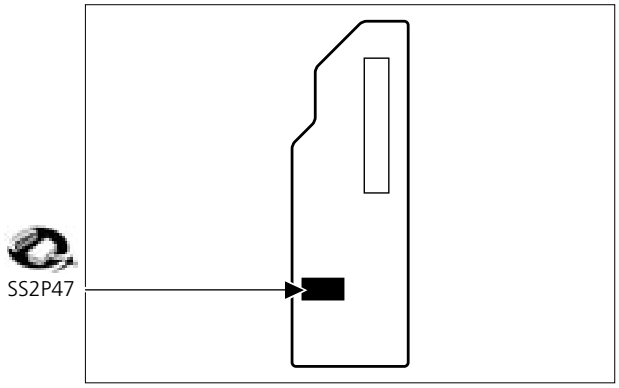


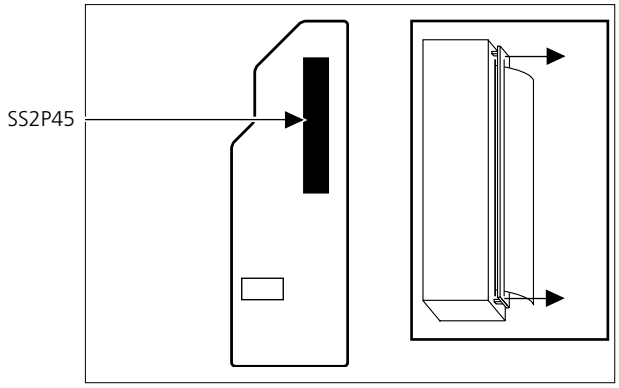
Replacement of PCB SS2, Sustain connection (Upper)

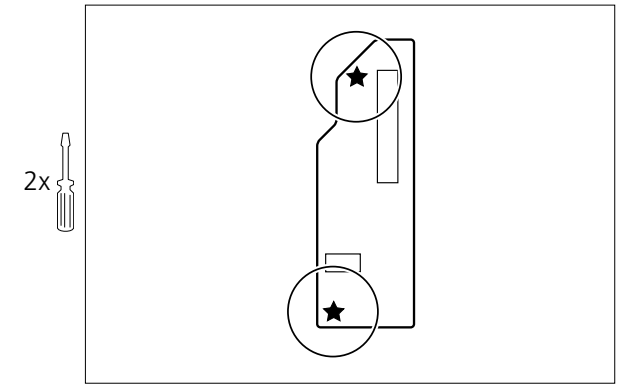


Service position

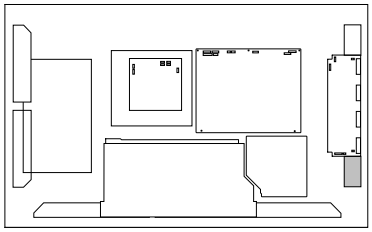




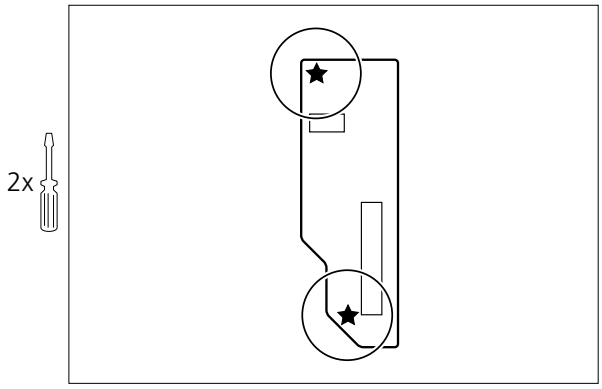


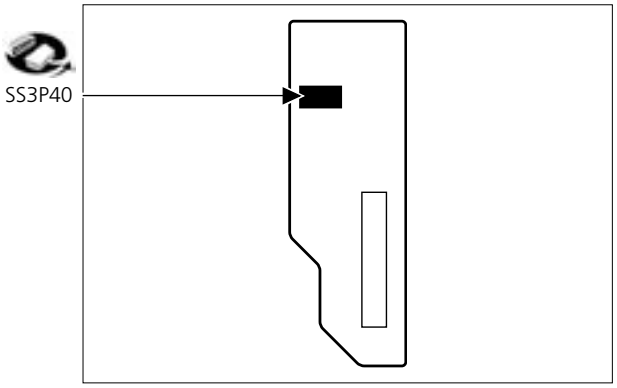


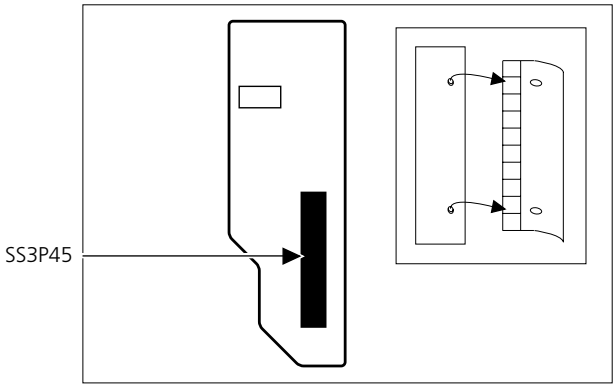
Replacement of PCB SS3, Sustain connection (Lower)

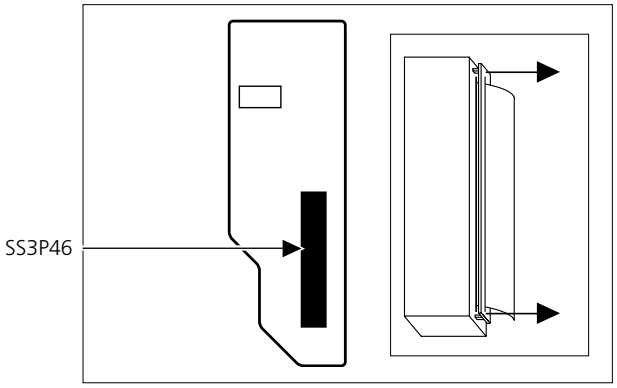


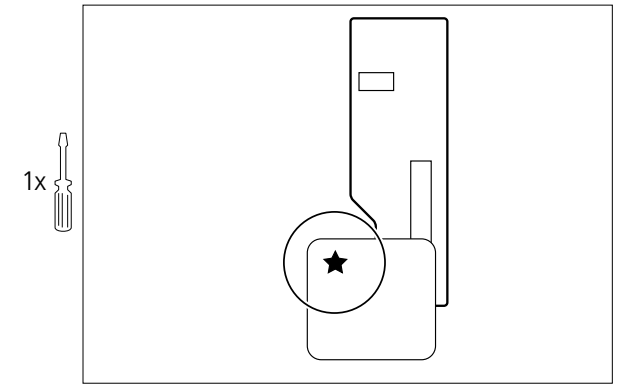
Service position



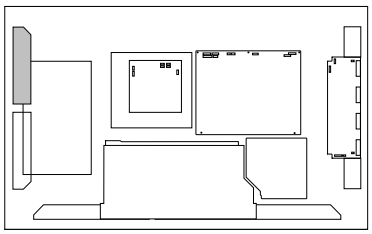




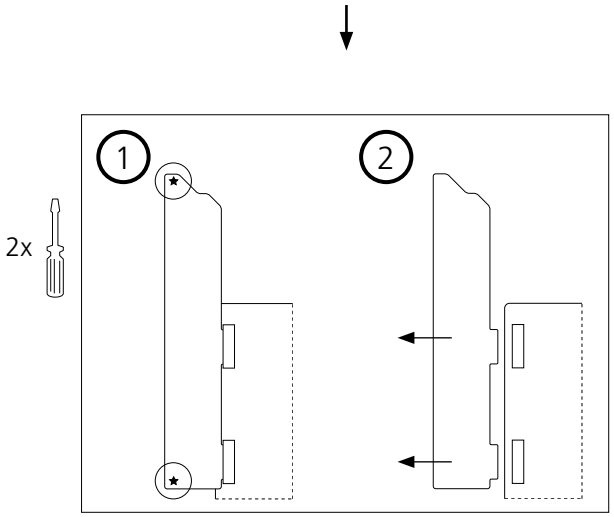


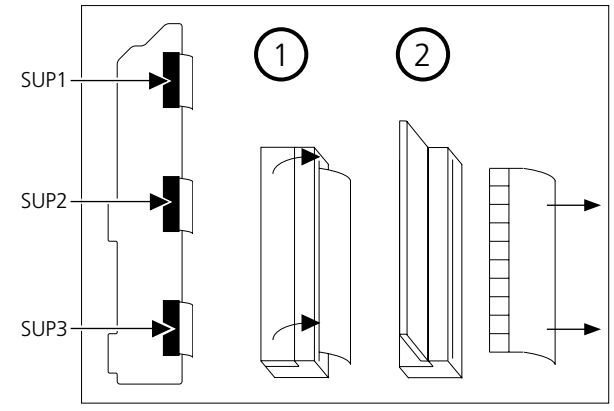


Replacement of PCB SU, Scan connection (Upper)

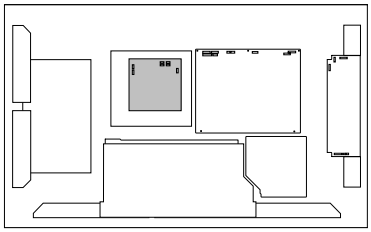


Service position

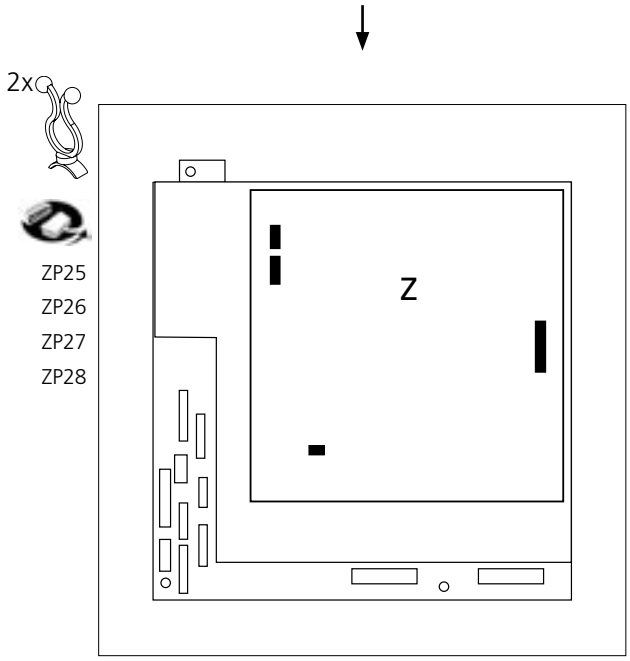


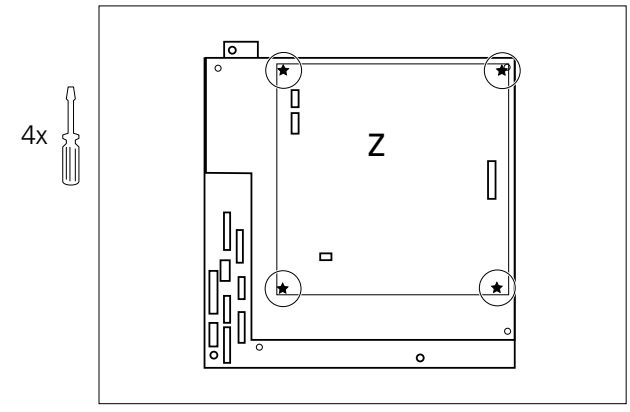


Replacement of PCB Z, Audio out



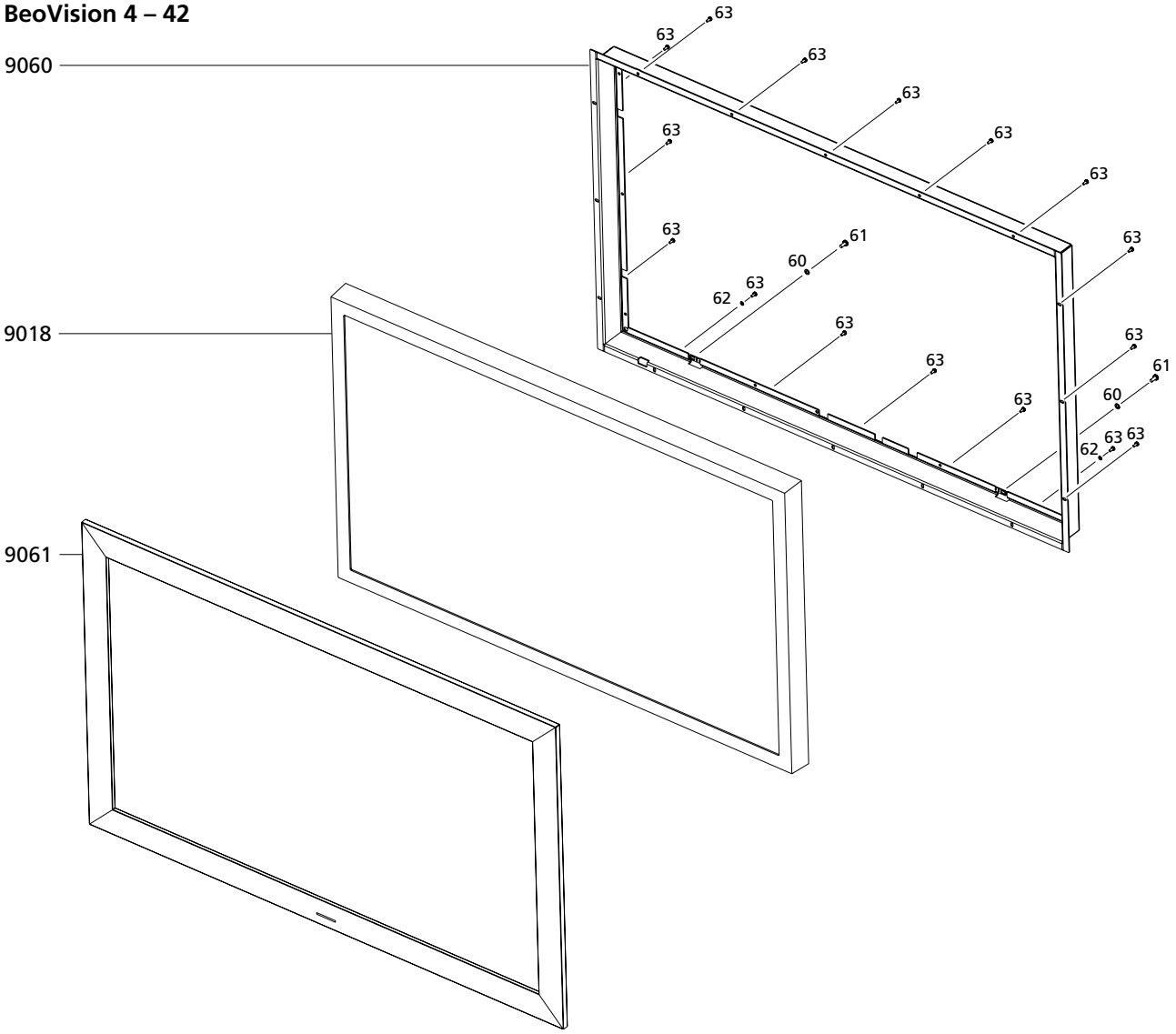
Service position





SPECIFICATION GUIDELINES FOR SERVICE USE	Plasma Display Panel – 42 SD
Type	D6
Mains Voltage	220V 50/60 Hz
Power consumption	Typical: 265 W, standby: 0.8 W, power off: 0.6 W
Dimensions (W x H x D) / Weight	1020 mm x 610 mm x 87.8 mm / 29 kg (64 Lb.)
Plasma Display Panel	AC type 16:9 aspect ratio
Brightness	235 cd/m2
Contrast Ratio	4000:1
Viewing angle	160 °
Screen size	900 mm (W) x 518 mm (H), 1056 mm / 42" (diagonal)
No. of pixels	408960 (852 W x 480 H), (12556 x 480 dots)
Operation condition	
Temperature	0 °C - 40 °C (34 °F - 104 °F)
Humidity	20 % - 80 %
Max. altitude	833 hPa or higher
Connections	
PC In (D-SUB 15 pin)	
R/G/B	0.7 Vpp 75 ohm
HD/VD	1.0 - 5 Vpp High impedanse
Horizontal scanning frequency	15 - 110 kHz
Vertical scanning frequency	48 - 120 Hz
Serial (D-SUB 9 pin)	RS-232C
Accessories	
Wall bracket	1407166
Subject to change without notice	

BeoVision 4 – 42

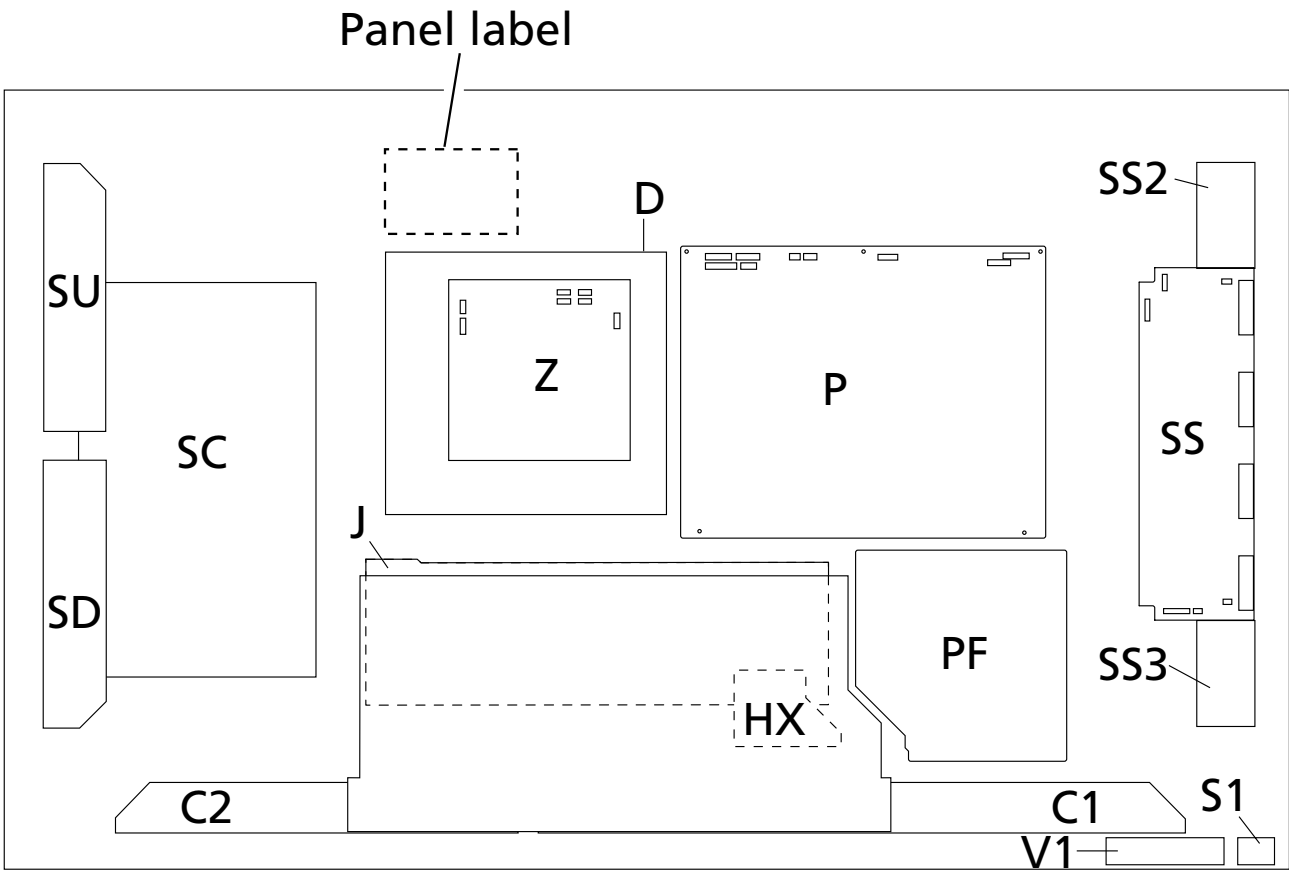


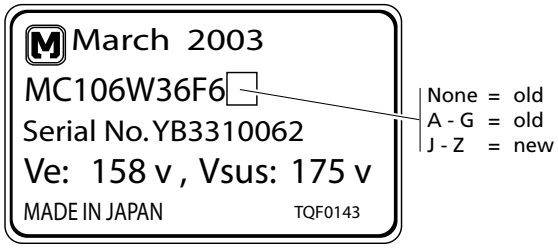
9018	8200122	Plasma screen, complete
9060	3151464	Iron frame
9061	3320769	Front frame
60	2625004	Washer
61	2058074	Screw 5 x 12mm
62	2625039	Washer
63	2015002	Screw 3.5 x 8mm
	3392324	Outer carton for monitor BV4-42
	3396268	Foam packing, set

Wall Bracket 1407166

2622027	Insulating spacer
2622029	Toothed washer
2380002	Pan head bolt
2030001	Screw M5
3040006	Allen key

Plasma Display Panel, modules





C1 - old	8000062	Data drive (Lower Right)
C1 - new	8001427	Data drive (Lower Right)
C2 - old	8000063	Data drive (Lower Left)
C2 - new	8001428	Data drive (Lower Left)
D - old	8000094	Digital Signal Processor
D - new	8001365	Digital Signal Processor
HX	8000055	PC Type Input Terminal
J	8000093	Slot Interface & SYNC processor
P	8000095	Power Supply
PF	8000057	Line filter (not including in Back-up suitcase)
S1	8000068	Power switch (not including in Back-up suitcase)
SC	8000096	Scan out
SD	8000061	Scan connection (Lower)
SS	8000097	Sustain out
SS2	8000058	Sustain connection (Upper)
SS3	8000059	Sustain connection (Lower)
SU	8000060	Scan connection (Upper)
V1	8000069	Front SW & Remote receiver
Z	8000056	Audio out

F900	6600174	Fuse 250V 8A
F901	6600174	Fuse 250V 8A
F902	6600002	Fuse

Parts not shown

8053466	Special remote control
3375289	Service stand - order 2 pcs.
3375706	Micro fibre cloth
3375290	Product cover

Back-up suitcase

3395089	Back-up suitcase with plasma modules

Available documentation

3538002	Service Center repair guide f/BeoVision 5 – 42 EU MKIII English, German, French, Italian, Spanish, Danish, Dutch
	Guides and Reference book, please see Retail Ordering System